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ABSTRACT

Focusing on the career education potential of physically handicapped individuals at Massachusetts Hospital School (MHS), the project included a current population assessment, a survey of employment prospects, and career education resources for physically handicapped students. Based on a series of data collection procedures, 18 career education recommendations are offered for MHS. A questionnaire (23 percent return) to 434 State firms to determine the kinds of businesses and types of jobs employing the physically handicapped indicated many employers appeared unaware of the potential of physically handicapped employees. Findings of a national survey to 51 Directors of State Easter Seal Societies (24 percent return) and 50 State Commissioners of Education (42 percent return) to determine successful occupations of physically handicapped persons (coded by handicapping condition and listed under occupational clusters) showed that a wide variety of careers are open to physically handicapped persons in Massachusetts and the United States. The program/population study covered: physical facility, equipment, records, handicapping conditions, academic aptitude/curriculum, personality traits (High School Personality Questionnaire), and school programs. Findings of a questionnaire to graduates of 1968-1973 classes (53 percent return) also are included. Resources include potential funding sources, annotated bibliography of classroom materials, list of publishers, and professional references. (EA)

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CAREER EDUCATION POTENTIAL FOR STUDENTS AT THE MASSACHUSETTS HOSPITAL SCHOOL

A COOPERATIVE PROJECT BETWEEN
BLUE HILLS REGIONAL TECHNICAL SCHOOL
AND MASSACHUSETTS HOSPITAL SCHOOL

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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CE006 107

CAREER EDUCATION POTENTIAL FOR STUDENTS AT THE MASSACHUSETTS HOSPITAL SCHOOL IN CANTON

An evaluation of current program and proposal for the development and implementation of a career education program.*

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FOREWORD

This report describes the results of an evaluation done at the request of the Blue Hills Regional Technical School and the Massachusetts Hospital School in Canton, Massachusetts. The evaluation was done as part of a continuing effort to improve the quality of services offered to students, families and society.

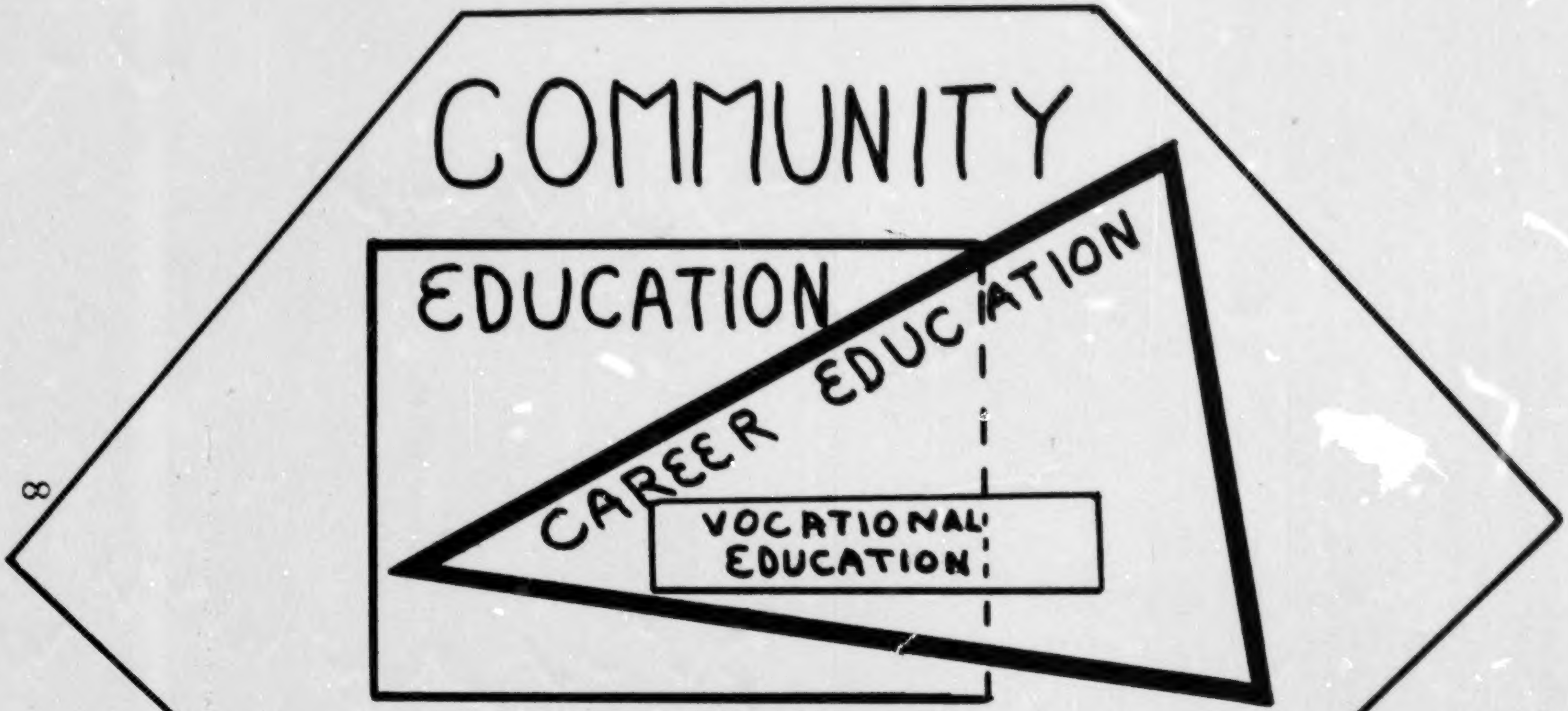
The report contains comments on changes in educational philosophy and practice which have had impacts on education of physically handicapped persons. It also includes results of literature surveys, mailed surveys, information obtained from interviews with relevant professionals, as well as descriptive data on current program and students. Descriptions of materials and methods are provided. The list of references includes materials on research, methods, prevalence, programs, recent professional thought and other relevant data. Recommendations and proposals for program emphasis, implementation and expansion are provided.

This report is the result of the interest and work of many persons, to whom deep appreciation is due. The project directors are especially grateful to William A. Dwyer and Ronald Linari of Blue Hills Regional Technical School, to James J. Callahan, Jr., Ph.D., Edward Graham, Lorraine Atkin and other faculty at Massachusetts Hospital School, to the graduates and students at MHS, to the commissioners of many state departments of education from throughout the U.S.A.,to the directors of many state Easter Seal Societies who provided information, to employers in the

Commonwealth and to the many schools, firms and non-profit agencies that responded to requests for information on career education materials for use with physically handicapped students. The work could not have been done without the excellent cooperation of these people and especially the dedicated project staff. The directors take full responsibility, however, for opinions expressed, recommendations made, and for any errors of omission or commission.

D.C.G. and S.A.W.

Wakefield, Massachusetts
August 15, 1974


COMMUNITY
EDUCATION
CAREER EDUCATION
VOCATIONAL EDUCATION

The place of Career Education
in the Community and the Educational System

SUMMARY AND RECOMMENDATIONS

INTRODUCTION:

The data presented in this report generally support the feasibility of the development of Career Educations programs at Massachusetts Hospital School. The present curriculum at MHS could very effectively serve the career education needs of its graduates if its primary focus included:

1. An emphasis on the career development process of each student.

2. The development of skill training programs for most students whose primary goal is the acquisition of salable skills before graduation. Some students will want to emphasize a college-bound curriculum because they selected career choices which require post-graduate training; however, this does not mean that these students should not have received some specific occupational skill training prior to graduation from MHS. Furthermore, a total career education program includes college training where needed for the chosen career.

To accomplish the above ends, it seems reasonable to adopt the current "Career Education" approach (K-Life) which continues to receive strong support from the U.S. Office of

Education (Bailey & Stadt, 1973; Childers & Nichols, 1973; Herr, 1972; Hoyt _et al_, 1972; Hoyt _et al_, 1973; Ressler, 1973; Schreiber & Black, 1973; Smith, 1972; Smoker, 1974; Stevenson, 1973; Wernick, 1973). While comprehensive career education approaches have taken a number of forms, depending on the community in which they have been piloted and implemented, career education programs are generally divided into a number of phases, levels of development and time-frame periods. The following model quoted from Schreiber & Black (1973, page 4) has been adopted by the Ohio State Department of Education and is probably representative of most of the programs in career education currently operating across the country:

"I. _Career Motivation_ (K-6) generally is the first, and perhaps the most important, phase of the total career education program, because it provides the foundation, the development of favorable attitudes toward the world of work.

II. _Career Orientation_ (7-8) provides all youth the opportunity to become aware of the many occupations open to those who prepare for them. Careers are identified. The fifteen clusters identified by the U.S. Office of Education are examined and requirements of and preparation for specific jobs are considered.

III. _Career Exploration_ (9-10) provides all youth the opportunity to examine and gain first-hand experiences with several career opportunities, consistent with their interests and abilities.

IV. Career Preparation Program for youth 16 and above includes:

a. Comprehensive vocational education program which provides job skills and technical knowledge and develops work habits and attitudes in preparation for employment; and

b. Comprehensive pre-professional education program which provides knowledge and foundations in preparation for professional education beyond high school.

V. Career Training, Retraining and Upgrading Program for out-of-school youth and adults provides opportunity throughout adulthood to train, retrain and upgrade skills as technology changes and societal and individual needs and desires dictate."

The basic aim of the career education model is to make it possible for all students to achieve the objective of "successful career performance" (Hoyt et al, 1972, p. 6) in its broadest context of human development (both personal and societal). Because goals of career education (not necessarily its methods)are clearly defined, it offers accountability. One can measure the success or failure of the program by a number of procedures (e.g. Gardner, 1974) involving employment history of graduates, earnings and job satisfaction.

In the past several years the availability of references and materials for the design and implementation of such models has increased measurably. While review of literature and catalogs failed to uncover a large volume of materials directly designed for use with physically handicapped students, many of the materials currently available can be easily adapted for use at MHS for program development and implementation. These items have been reviewed and are reported in the section on materials and references.

ABSTRACT OF FINDINGS

For this study, there were a series of data collection procedures. In addition to interviews with staff and reviews of various records, specific information was obtained from a variety of sources including:

Students (through evaluation instruments)
Employers and potential employers
Graduates
Textbooks and Journals
Curriculum Guides and catalogs
Personnel in State Departments of Education
Personnel in State Easter Seal Societies

Major conclusions drawn from an analysis of these data are as follows:

1. A wide variety of careers are open to physically handicapped persons in Massachusetts as well as other parts of the U.S.A.

2. In the Commonwealth of Massachusetts there are many jobs available which could be performed by physically handicapped persons, but many employers appear unaware of the potential of physically handicapped employees.

3. Numerous career education models which have already been developed could be readily modified for use at MHS.

4. There are a number of possibilities for outside funding of programs which could be developed readily at MHS.

5. There are numerous sources of career education materials and techniques which would be readily adaptable to the MHS program.

6. MHS has a highly variable population in terms of abilities and disabilities of its students and a career education model would therefore seem highly appropriate. Specifically, a majority of the students in this school, as in many other public schools, are probably inappropriately served in a program which places primary emphasis on preparation for college.

7. Current students and graduates of MHS appear to be rather poorly informed about occupations and ways of obtaining jobs.

8. Current staffing patterns need modification in order to implement an optimal program which would provide appropriate services to all students.

RECOMMENDATIONS

RECOMMENDATION I:

IMPLEMENTATION OF A PLAN OF EVALUATION AND INDIVIDUALIZED PROGRAM PLANNING FOR EACH STUDENT. THE EVALUATION SHOULD INCLUDE ASSESSMENT OF THE STUDENT'S CAPABILITIES AND ABILITIES: INTELLECTUAL, ACADEMIC, PERSONALITY, PHYSICAL LIMITATIONS, INTERESTS, AND TENTATIVE CAREER CHOICES. BASED ON

THE EVALUATION, A PRECISE STATEMENT OF EDUCATIONAL GOALS AND OBJECTIVES FOR EACH CHILD SHOULD BE MADE AND FOLLOWED BY A DESCRIPTION OF PLANS FOR MEETING THESE GOALS AND PROVISIONS FOR EVALUATING PROGRESS TOWARD THEM.

This recommendation follows from the regulations of Chapter 766 of the Massachusetts statutes. The regulations were published in 1974 pursuant to enactment of the law in 1972 and concern education of "children with special needs."

A specific plan of action helps to focus planning and evaluation of results, as well as providing written records for future use. It should facilitate transition from MHS to other programs and provide evidence for evaluation of the school program as a whole.

The recommendation could potentially be extremely time consuming. However, if a thoughtful plan for data gathering were prepared prior to implementation, then efficiency could be obtained. For example, much of the needed information is already available (e.g., physical limitations) and much could be obtained with extensions of simple checklists such as the one used in this study or some of the materials found in Grossman et al (1973). Keeping the records current would be simply a matter of routine reassessments and might offer good opportunity for modern replacements of the report card system currently in use.

RECOMMENDATION II:

DEPTH STUDY OF THE TOTAL CURRICULUM OFFERINGS TO DETERMINE THE APPROPRIATENESS OF OFFERINGS IN THE LIGHT OF THE POPULATION NOW BEING SERVED, THEIR CAPABILITIES AND DISABILITIES, THEIR INTERESTS, THEIR CAREER GOALS.

No educators are satisfied with a program over a long period of time. Constant modifications and efforts to improve the program based on evaluation of the needs of students and effectiveness of program is a hallmark of a good program. There are indications that the current program could be somewhat modified to make provisions not currently available. For example, there may be need for reading instruction (especially to increase speed and comprehension) at the high school level. There is a relatively large number of high school subjects for population; in situations where only a tiny number of students is enrolled for a particular high school subject, it might be feasible to delete those courses qua courses and have students take them in post-high school or provide for supervised correspondence study for which MHS can give credit on examination and evidence of successful completion. In particular, it might be possible to arrange for some of the college-bound courses to be taught in this manner since those courses are more likely to be available through correspondence and are more amenable to that approach than, for example, typing.

RECOMMENDATION III:

INVESTIGATE WAYS TO IMPLEMENT A CAREER EDUCATION MODEL (K-LIFE) AT MHS.

The data and literature support the feasibility of the development of career education programs at MHS. The present curriculum at MHS could very effectively serve the career education needs of its graduates if its primary forms included:

1. An emphasis on the career development process of every student.

2. The development of skill training programs for most students to supplement other educational offerings. One promising model is the Ohio State Department of Education discussed above in this report.

RECOMMENDATION IV:

INVESTIGATE WAYS TO IMPLEMENT SPECIFIC SKILL TRAINING PROGRAMS, FROM THE POSSIBILITIES SUGGESTED AS MOST PROMISING BY THE DATA AND IN THE LITERATURE.

There are a number of possibilities, most of which would be eligible for funding under the Vocational Education Act of 1963 (as amended). (Part B of the Act requires that 10% of Vocational Education funds be spent on programs for the handicapped.) Below are some examples of skill training-programming which deserve careful consideration:

A. Expand age range of students to whom services are offered. The Career Education Model holds that careers may change, and that training should be available for adults as well as "school age children." It seems likely that previous MHS students, as well as other physically handicapped adults, could profit from adult education offerings. (Whether there would be necessary enabling legislation would need investigation.) MHS might cooperate with other educational organizations in developing offerings for MHS students and for students who might attend programs together with MHS students, thus facilitating the normalization concept.

B. Devise additional similar cooperative programs for elementary, junior high and high school students. This would require arrangements for tuition and transportation exchanges.

C. Provide for marked expansion of distributive education, work-study, and cooperative education opportunities for MHS students.

D. Establish a workshop program at MHS. This workshop program should include opportunities for younger students to observe a variety of work activities, skill and vocational training for older students, and perhaps a sheltered workshop-terminal employment component for students whose skills are developed but not salable in the competitive job market. The example of the program at Human Resources Center (described in this report) could serve as a model for such a program.

RECOMMENDATION V:

EXPAND PRESENT RELATIONSHIPS AND DEVELOP NEW RELATIONS WITH UNIVERSITY PROGRAMS WHICH HAVE PROFESSIONAL TRAINING PROGRAMS IN CAREER EDUCATION AND WORK WITH HANDICAPPED CHILDREN.

Consistent with the career education model (e.g. Hoyt *et al*, 1972), MHS could utilize the services of university programs in order to provide:

1. In-service training of staff, with university credit. This would give MHS faculty extensive information on careers so that they can expand the informal vocational guidance services they already provide.

2. Consultation on curriculum development. This could aid faculty in efficient planning for curriculum change, implementation and expansion.

3. Consultation on evaluation. Accountability for the use of funds and of personnel has been emphasized in recent years. Good program evaluation requires considerable skill and a consultant would be crucial.

4. Consultation on training of volunteers and aides. Effective and efficient use of volunteers requires careful training. Further, protection of the rights of students requires very careful orientation, which can be effected most helpfully with trained consultant aid.

5. Increased cooperation in teacher-training.
    a. Student teachers
    b. Graduate interns
    c. Undergraduate interns.

Liaison with university teacher training programs can help increase the pool of trained personnel, help in developing positive attitudes in concerned citizens and professionals, and provide some aid to classroom teachers. Increasing university contacts through cooperation in training would be highly desirable.

RECOMMENDATION VI:

PROVIDE CAREER EDUCATION CURRICULUM CONSULTANTS OR SPECIALISTS TO WORK WITH TEACHERS AND CURRICULUM COMMITTEES.

The function of the curriculum specialist would be to establish career education curriculum committees (comprised of teachers, administrators, business and industrial leaders from the community, parents and students) and to supervise the development and implementation of the career education (K-Life) model at MHS. One possibility would be the use of a university-based consultant team. Another option would be to employ a professional staff member to direct all activities relating to career education at MHS as well as the curriculm development process.

RECOMMENDATION VII:

EXPAND PRESENT RELATIONSHIPS AND DEVELOP NEW ONES WITH A WIDE VARIETY OF BUSINESS AND INDUSTRIAL ORGANIZATIONS AND GROUPS.

The data in this report generally support the desirability of MHS forming both formal and informal relationships with the local metropolitan area business community. Of particular interest are the results of the study of the state employment picture which clearly reflects extremely limited knowledge on the part of state-wide business and industry of the advantages of hiring handicapped workers. On this basis alone one could justify the formation of a business and industry advisory committee.

In a broader context, the necessity for cooperation of business and industry in career education programs is amply supported in the literature (e.g. Burt, 1969, 1971; Barnes, 1969). Some typical functions:

1. Providing on-the-job training sites for students;
2. Membership on advisory committees for curriculum developing and training methods;
3. Guest speakers to civic and other organizations;
4. Materials loans and gifts from industry and civic organizations;
5. Sites for career exploration field experiences.

Moreover, in some instances, private corporations have provided some public schools with financial assistance in terms of curriculum materials, teacher-training programs, liaison assistance, student subsidies, etc. (e.g. Gardner, 1973).

RECOMMENDATION VIII:

PROVIDE PROFESSIONAL EDUCATORS (WHO MAY BE CURRENT STAFF MEMBERS TRAINED FOR THE WORK) TO SERVE AS STUDENT PLACEMENT SPECIALISTS.

Consistent with the implementation of a career education model (K-Life), including the development of skill training programs, such specialists would perform the following functions:

1. Coordinate career education field trips to and arrange for guest speakers (audio-visual presentations) from the community (elementary and junior high level);
2. Placement and supervision of students in unpaid "career exploration" assignments in the community (junior high to senior high);
3. Placement and supervision of students in on-the-job training programs in the community (high school; adult);
4. Placement and follow-up of graduates of MHS.

RECOMMENDATION IX:

PROVIDE PROFESSIONAL EDUCATORS (WHO MAY BE CURRENT STAFF MEMBERS TRAINED FOR THE WORK) TO SERVE AS CAREER COUNSELING SPECIALISTS.

Such specialists would emphasize the career development process of all students from the early school years as well as provide assistance to high school students in the career choice process. These specialists would also serve as resource persons to other teachers at all levels.

RECOMMENDATION X:

OBTAIN AND MAKE READILY AVAILABLE TO STUDENTS AND TEACHERS A VARIETY OF MATERIALS ON CAREERS.

One problem which students have in planning for the future is an ignorance of the varieties of occupational choices available. There are numerous resources which could help remedy this problem. The Federal government publishes, through the Superintendent of Documents, several aids such as the Dictionary of Occupational Titles (listing over 30,000 occupations) and the Employment Outlook Handbook. In addition, numerous pamphlets are available from commercial sources and from professional organizations (e.g. American Psychological Association publishes pamphlets describing careers in psychology and in mental health). There are films, cassettes and film strips available commercially and from industry. A library of such materials could be obtained and made available to students at nominal cost.

RECOMMENDATION XI:

INTRODUCE TYPING AT THE BEGINNING OF THE ELEMENTARY SCHOOL CURRICULUM AND IN ALL CLASSROOMS; WHERE NECESSARY PROVIDE TYPEWRITERS IN THE CLASSROOMS.

A substantial proportion of students have great difficulty in writing and communicating. Since written communication is of major importance to most community living, the early introduction of all feasible methods of communication seems warranted. Silence isolates. Provisions for breaking silence lead to a richer, fuller life, as well as offering the better practical benefits of occupational potential.

It is well known that even very young children can learn to use typewriters. There are ways of modifying electric machines so that even those with very limited hand use can operate them. For example, Ealing Corporation of Cambridge, Mass., provides equipment for operating machines by simply blowing or sucking on a tube. It is a simple matter to attach a continuous paper roll to a typewriter so that students do not need someone to insert pages frequently. A bank of several typewriters on cantilevered shelves of convenient height along one wall and/or small booths at the side of each classroom would make for better opportunities for communication, skills which might eventually be helpful in community living, and possibly a marketable skill. A major benefit would be improved legibility. Placing the typewriters along the wall would permit a series of electric conduits along the wall and avoid wire hazards on floors.

The use of typewriters would not take the place of teaching handwriting to students and all those who can learn it should have the opportunity to learn. However, in today's society, the skill of typing is a major asset to almost all citizens.

RECOMMENDATION XII:

EMPLOY SEVERAL EDUCATIONAL MEDIA TECHNOLOGY SPECIALISTS (E.G. A FULL-TIME DIRECTOR PLUS A TECHNICIAN).

One major function of this media team would be to research, develop and produce appropriate career education materials for each grade level. Another major function would be to train students in the field of media technology. This would be consistent with the fact that the occupational cluster "Communications and Media" was one of the more frequent areas where handicapped persons are employed.

RECOMMENDATION XIII:
EMPLOY ON PART-TIME OR REGULAR CONSULTATION BASIS A HIGHLY SKILLED, EXPERIENCED PSYCHOLOGIST WITH EDUCATIONAL AND SCHOOL PSYCHOLOGY BACKGROUND.

The psychological services in the past appear to have been primarily clinical psychological evaluation services; much of the limited amount of service available seems to have been for the determination of program eligibility. Such service is important and useful, but it does not provide teachers with the kinds of direct services which could be helpful in specific precision teaching of children as well as aid in the planning and evaluation of school programs.

Although consideration might be given to appointment of a full-time junior level person, it is probable that a senior person serving on a part-time or consultative basis would be far more productive.

RECOMMENDATION XIV:
OBTAIN BATTERY OPERATED CALCULATORS OF VARYING LEVELS OF COMPLEXITY FOR EACH CLASSROOM.

Small calculators are now relatively inexpensive and are helpful in increasing speed of calculation as well as potentially motivating. In many occupations, the ability to use such equipment is helpful.

By **starting** with simple four-function calculators at the first grade level and gradually providing machines with more functions, students can become quite adept by the high school age. Although some teachers may feel that such equipment may decrease ability to handle mathematical concepts, the question is empirical and one may hypothesize that mathematical abilities may be facilitated; for the large number of MHS students who have difficulty with writing, use of such equipment could be especially helpful.

RECOMMENDATION XV:

INVESTIGATE POSSIBILITY OF OBTAINING TALKING BOOKS FOR STUDENTS WITH DIFFICULTY USING HANDS AND/OR READING PROBLEMS.

Although many books in wide use can be obtained from sources furnishing materials for use by the blind, and made available on 8-track tapes and cassettes for use with feather-touch controls, such materials are not yet available on areas of career education for the physically handicapped. Volunteers working with the faculty of MHS could make the tapes for MHS student use.

RECOMMENDATION XVI:

EMPLOY A SPECIAL CONSULTANT IN SPEECH PATHOLOGY.

A substantial proportion of students at MHS have speech problems. The school employs speech correctionists, but some of the students appear to have unusual problems. Furthermore, there are new studies and techniques which should be considered for some of the MHS students. A highly specialized senior person with thorough knowledge of aphasia, as well as the most recent research in speech pathology and audiology should be given consideration. This consultant could work with and through the speech therapy staff to recommend strategies and materials, and provide opportunities for research to determine whether some new techniques might be developed through cooperative activity of MHS and a university Speech Pathology department.

RECOMMENDATION XVII:

REVIEW RECOMMENDATIONS WITH FACULTY, TRUSTEES, AND REPRESENTATIVE STUDENTS AND PARENTS TO DETERMINE FEASIBILITY OF IMPLEMENTATION. FOR THOSE RECOMMENDATIONS TO BE IMPLEMENTED, PLAN EVALUATIVE TECHNIQUES PRIOR TO ANY IMPLEMENTATION. CONTINUE ON-GOING EVALUATION.

RECOMMENDATION XVIII:

AT THE END OF THE 1974-1975 SCHOOL YEAR, REVIEW NEW PROGRAMS AND REVIEW RECOMMENDATIONS NOT IMPLEMENTED, TO DETERMINE FEASIBILITY OF IMPLEMENTATION AT SOME LATER DATE.

INTRODUCTION

Most educators would concur that the development and growth of all children in as many areas as possible is the proper concern of professional educators. Such diverse thinkers as Dewey, Rousseau and Spencer have delineated the major areas of concern in education as (1) "...the process of living..." (Dewey, 1897, p. 22) whose proper subject matter is preparation for a "social life"(Dewey, p. 24); (2) the study of "...man and his environment." (Rousseau, 1792, p. 9) and (3) preparation for "complete living" (Spencer, 1860, p. 31). For the purposes of this report, education is defined as the process of purposefully equipping individuals with the knowledge, skills and attitudes necessary for the achievement of socially productive and personally satisfying roles in society.

The earliest forms of education took place in the home where children learned by imitating their parents and relatives (Bailey & Stadt, 1973, p. 169) and this is the major form of learning in many primitive cultures today (Spradley, 1973, p. 3). As civilization progressed, man developed organized apprenticeship systems for certain vocations and as his knowledge became more complex, he established institutions which were organized to provide more "formal" instruction. Since in early and primitive cultures, handicapped persons frequently did not live to reach maturity, the development of special vocational education programs for the handicapped is historically recent.

In its inception, the rationale for providing all citizens with formal education in the United States was (1) to teach them to read so they could read the Bible and (2) to provide them with basic academics for performing the daily tasks needed for social adaptation. The American vocational movement has its roots in the latter rationale.

> In the four decades surrounding 1900, public schooling in the United States was thoroughly transformed. No change was more crucial to this reconstruction than the development of vocational education. More explicitly than before, vocationalism raised questions about the purposes of schooling and the utility of various kinds of knowledge. It demanded that the school be closely integrated to the economy, and that it be the primary selecting agency for the occupational structure (Grubb & Lazerson, 1974).

The course of the development of vocational education between 1900 and 1960 was largely determined by the provisions of the Smith-Hughes Act of 1917 just as the present course is largely related to the Vocational Act of 1963 with its subsequent amendments (1968, PL 90-576; 1972, PL 92-318).* Concurrent with the development of vocational education in the USA was the growth of, and interest in, special programs for the handicapped. This trend is reflected in those provisions of the vocational amendments which provide for programs for the handicapped.

The impetus for the present study is unquestionably tied to the recent emphasis on vocational education in the country, the increasing availability of special funds for the development of vocational training programs for the handicapped and the desire on the part of the new administration at Massachusetts Hospital School, encouraged and supported by the Blue Hills Regional School, to ensure that their future graduates are not "...irrelevant bystanders in our fast-moving, work-oriented society." (Stern et al, 1970).

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*Note: The reader is referred to Bailey & Stadt, 1973, Grubb & Lazerson, 1974 and Herr, 1972 for in-depth analysis of the historical and legislative perspectives of vocational education in the United States.

Project Objectives

General

This project was designed to study the career education potential of the individuals served at the Massachusetts Hospital School on the request of the Blue Hills Regional Technical School, both in Canton, Massachusetts. The project included a study of the current population, the potential for career education of the population, and a survey of the employment prospects in the geographic area, as well as prospective resources relevant to the career education of these physically handicapped students. As part of this report, recommendations for modifications or expansion of services and possible financial support for these services are delineated.

Specific objectives were:

A. To review the current program of the Massachusetts Hospital School. This review included a study of the types of handicapping conditions and levels of physical involvement of students, and the assets as well as the limitations of the students. Specific emphasis was placed on career education and career guidance. This was accomplished through observations of students, a testing program, examination of student personnel records, other relevant programmatic material and discussions with staff and administration.

B. *To determine the general capabilities* of enrolled students for appropriate career training and career possibilities, giving specific attention to the degrees of handicapping conditions and the compensatory techniques these students have or may be able to develop. This was accomplished through an academic-vocational testing program, observations by trained educators and psychologists, discussion with staff and administration and an examination of student personnel records, and through a follow-up survey of recent graduates.

C. *To analyze potential for reasonable employment opportunities* based on: (1) a review of the relevant literature; (2) state and community employment needs; (3) model programs in the nation; and (4) the experiences of previous graduates. State and community employment needs were investigated by using several survey designs described later in the report. A survey instrument was designed to elicit the number and types of occupations currently held by handicapped persons in Massachusetts. In addition, as part of a national survey of jobs available for handicapped persons, the Massachusetts Department of Education and the Massachusetts Easter Seal Society were contacted. A follow-up study of previous graduates obtained opinions of former students living in the state and community, including data on their present employment status. After an extensive search of the literature for national model programs and discussions with prominent educators, two project staff members selected and visited an outstanding model program, the Human Resources Center in Albertson, New York. Three experienced educators conducted a review of the literature for information on funding, model programs, textbooks, periodicals, and other relevant material which might apply to the problems under study.

D. To investigate the barriers to employment and the possibility of extending provisions for rehabilitation and training for physically handicapped individuals beyond age 21. This objective was accomplished in part by a survey of potential employers in Massachusetts and through the literature review.

E. To document the conclusions reached and make recommendations relative to the following:

1. Curriculum and guidance provisions related to career education;
2. Potential involvement and support of other agencies;
3. Potential funding mechanisms to develop and implement the recommendations;
4. Reasonable career opportunities for physically handicapped persons such as these students;

5. Vocational training programs and facilities;

6. Ancillary provisions for support of career related activities, types of housing (excluding any architectural or engineering recommendations) and other relevant data as related to the comprehensive career programming and services.

AREAS FOR CONSIDERATION FOR CAREER EXPLORATION AND TRAINING

Undoubtedly, almost any job listed in the D.O.T. can be performed by many handicapped persons, depending upon the handicapping condition and the individual's training and ability. The intent of these sections is to point out those positions which seem to hold the most promise for career exploration, training and individual job success.

Below are reported specific jobs, coded to the U.S. Department of Labor's Dictionary of Occupational Titles (D.O.T.), which seem to represent appropriate areas for career exploration and possible job training for the present student population at Massachusetts Hospital School (MHS).

In Section I, State Employment Picture, is reported jobs, coded to the D.O.T., which may represent potential areas for successful employment by physically handicapped persons in the Commonwealth of Massachusetts. These data were obtained from a survey, described below, of a randomly selected sample of employers located in the Commonwealth of Massachusetts

In Section II, National Employment Picture, is reported areas which seem most promising for successful employment by physically handicapped persons in the U.S.A. The jobs are coded to the D.O.T. and by type of handicapping condition. Data were obtained by a national survey (reported below) of the State Commissioners of Education of the 50 states and from the Executive Directors of the State Easter Seal Societies for Crippled Children and Adults.

In Section III, Alumni Employment History, is reported those positions held by the graduates of the past six years at MHS who responded to the recent follow-up survey.

In Section IV, Student Interest, is reported those job categories which reflect the "average" interest (or most frequent response category) of the high school students currently enrolled at MHS who completed Holland's Vocational Preference Inventory (data are reported by sex). The "average" Holland job interest codes were converted to the appropriate D.O.T. codes using procedures outlined in Viernstein (1972).

SECTION I: THE STATE EMPLOYMENT PICTURE

The purpose of the project reported below was threefold:

1. To determine the nature (e.g. size, type of industry, etc.) of **businesses** in the Commonwealth of Massachusetts (hereafter referred to as the "state") which tend to hire handicapped workers, and to compare these firms with those which do not hire handicapped workers.

2. To obtain an indication of the specific types of jobs in which physically handicapped persons are currently working in the state.

3. To determine estimates of the possible barriers to employment of physically handicapped persons in the state.

Method

Queries were sent to the chief executive officer of 434 firms in the Commonwealth of Massachusetts, using offset-printed cover letter on letterhead stock, a printed survey instrument and a pre-addressed return envelope. The mailing list for the sample was developed by random selection of names of three firms from each column on each page in the following directories:*

1. Dun & Bradstreet's Million Dollar Directory (1974)
2. Dun & Bradstreet's Middle Market Directory (1974)
3. The Greater Boston Chamber of Commerce's 1971-72 Directory of Manufacturers in Greater Boston.

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*Note: All directories were the most current available.

Each survey instrument sent to each selected organization was assigned a code which incorporated that organization's Standard Industrial Classification (SIC Code) for later identification and analysis. The Standard Industrial Classification Codes used in this project were based on the codes prepared by the Technical Committee on Standard Industrial Classification, under the sponsorship and supervision of the Office of Statistical Standards of the Bureau of the Budget, Executive Office of the President of the U.S.A. (1967, 1972 Revisions). Each SIC number shows the function or type of operation (i.e. in 2361 "23" indicates manufacturer of apparel) and the line (i.e. goods produced, for example in "2361" (manufacturer of apparel) "6" = Girls' children's and infants' outerwear, and "1" = product manufactured, "dresses, blouses, waists and skirts.")

The instrument was labeled "Confidential - for research purposes only." The one-page instrument requested information on four questions and data on informant.

A. Total number of employees.

B. Total number of physically handicapped employees.

C. Listing of the type(s) of job(s) being performed by physically handicapped employee(s).

D. A section in which those firms not employing physically handicapped workers were asked to circle the numbers of the items listed below which applied to their policy:

1. We would employ qualified handicapped persons if they applied.
2. There are certain architectural prohibitions (e.g. no wheel chair ramps, elevators, etc.) please specify.
3. Most of the jobs are too dangerous for physically handicapped workers. Please give examples.
4. Would depend on the degree and type of physical handicap.
5. Other (explain).

E. Position or Title of Person Completing the Form.

RESULTS AND DISCUSSION

Of the 434 surveys mailed, 27 were returned undeliverable by the post office. Of 95 survey instruments which were returned, one reported having "no employees" so there were 94 usable returns. Return rate was 23.34% (N=406).

Of the organizations responding (N=94), 22 (23.4%) reported having physically handicapped employees. However, four firms classified deaf persons as physically handicapped and one firm so classified a blind person. Actual number of responding firms having physically handicapped workers was 17 (18.09%). This means that of the 406 organizations actually surveyed, at least 17 of the 406 (4.19%) have physically handicapped employees.

The response rate of 23% is rather low for a mailed questionnaire, even though this one was deliberately simplified so that it could be completed in a very brief time. Although caution must be used in interpretation, this rather low return rate may to some extent indicate a low interest in the problem of physically handicapped employees, despite publicity on the topic.

Interestingly, the larger firms were more likely than small ones to report hiring physically handicapped persons; however, the total proportion of their employees with handicaps was quite low. Thus, one can conclude that the job market remains limited and it will be necessary to work hard to place physically handicapped persons in the job market.

TABLE 1

RESPONSES TO QUESTION ON ORGANIZATIONAL POLICY ON HIRING PHYSICALLY HANDICAPPED (PH) WORKERS

N=94

ITEM	N	PER CENT
1. Not now employing PH workers	77	81.91%
2. Would employ qualified PH workers if applied	26	27.66%
3. Might employ PH workers under certain conditions	20	21.28%
4. Cannot or would not employ PH workers	31	32.98%
TOTAL respondents who do employ and those who would or might employ PH workers	63	67.02%

TABLE 2

JOB TITLES OF PHYSICALLY HANDICAPPED WORKERS REPORTED BY RESPONDENTS BY S.I.C. CODE[a], TYPE OF INDUSTRY, D.O.T.[b] CODE AND OCCUPATIONAL CLUSTER*

Job Title	D.O.T.[b]	Occupational Cluster[c]	S.I.C.[a]	Type of Industry
Estimator (project management)	160.288	Construction	1542	Contract Construction
Messenger	230.878	Manufacturing	2095	Manufacturer of roasted coffee
Dunning supervisor (office)	240.368	Manufacturing	2335	Mfr. of women's. misses,jr dresses
Typist-transcriber	203.588	Manufacturing	2631	Mfr. paperboard mills
Sales, service mgr. & production scheduler	187.168 221.168	Manufacturing	2631	Mfr. paperboard mills
Foreman, water dept.	851.138	Manufacturing	2631	Mfr. paperboard mills
Laborer	534.782	Manufacturing	2641	Mfr. paper coating & glazing
Laborer	534.782	Manufacturing	2641	

TABLE 2 (continued)

Job Title	D.O.T.^{b}	Occupational Cluster^c	S.I.C.^{a}	Type of Industry
Quality control supervisor	012.168	Communications & Media	2751	Commercial printing (letterpress)
Binder operator	787.782	Comm. & Media	2751	
Stainer operator	970.381	Comm. & Media	2751	
Stockroom clerk (maintenance)	223.387	Comm. & Media	2751	
Draftsman	007.281	Manufacturing	2821	Mfr. plastics, synthetic resins,etc.
Inspector-assembly	789.684	Manufacturing	3199	Mfr. leather goods
Inspector-assembly	789.684	Manufacturing	3199	Mfr. leather goods
Machine assembler	706.781	Manufacturing	3443	Mfr. fabricated plate
Draftsman	007.281	?	3443?	Manufacturer?

TABLE 2 (Continued)

Job Title	D.O.T.[b]	Occupational Cluster[c]	S.I.C.[a]	Type of Industry
Clerk	209.388	?	3443?	Manufacturer?
Machine shop laborer	600.280	Manufacturing	3613	Mfr. switchboard & switchgear
Machine operator	600.280	Manufacturing	3613	Mfr. switchboard & switchgear
Subassembler	706.381	Manufacturing	3613	Mfr. switchboard & switchgear
Secretary	201.368	Manufacturing	3613	Mfr. switchboard & switchgear
Bank teller	212.368	Marketing & Distribution	6025	Nat'l bank, member Federal Reserve System
Partner, securities & commodities	186.168?	Marketing & Dist.	6281	Services allied w/ exchange of securities & commodities
Editor	132.038	Business & Office	7399	Bus. services,n.e.c.
Editor	132.038	Business & Office	7399	Bus. services,n.e.c.

a = Standard Industry Classification Code
b = Dictionary of Occupational Titles Code
c = 15 Occupational clusters suggested by HEW (Dull, 1972, Ressler, 1973.

SECTION II, NATIONAL EMPLOYMENT PICTURE

A survey instrument was mailed to 51 Executive Directors of the National Easter Seal Society (Directory of State Societies for Crippled Children & Adults, 1973) and to the 50 State Commissioners of Education in the United States (The World Almanac, 1974). The instrument requested that each Director or Commissioner list the names of occupations at which they had found physically handicapped persons to be most successful, coded by handicapping condition, and listed under one or more of the 15 clusters of occupations suggested by the U.S. Department of Health, Education and Welfare (Dull, 197). The handicapping codes were:

WS = In Wheelchair, Self or Motor Propelled
WP = In Wheelchair, Pushed by Someone
AA = Arm Amputee
LA = Leg Amputee
PC = Poor Coordination

The fifteen occupational clusters were:

Transportation
Communications & Media
Environmental Control
Consumer & Homemaking
Hospitality & Recreation
Fine Arts & Humanities
Marketing & Distribution
Public Service
Agri-Business & Natural Resources
Business & Office
Health
Personal Service
Construction
Marine Science
Manufacturing

Results and Discussion

Of the 51 Executive Directors (includes Puerto Rico) to whom the survey was sent, only 12 responded. One survey was undeliverable (N=50) and only 7 of the 12 returns were usable (i.e. 5 returns were not completed but contained comments or attached letters). Return rate for this group was 24 per cent.

Of the 50 instruments sent to the U.S.A. State Commissioners of Education, 21 were returned for a return rate of 42%. Four returns were unusable (i.e. filled out incorrectly or contained only comments or an attached letter).

Table 3 reports responses for the combined groups as to the frequency of occupations by the fifteen clusters. Table 4 reports occupations, coded to the Dictionary of Occupational Titles (DOT) by handicapping condition and Occupational Cluster (Dull, 1972).

TABLE 3

FREQUENCY OF RESPONSES BY OCCUPATIONAL CLUSTER

Occupational Cluster[a] by Rank Order	Total Jobs Listed By Respondents
Business & Office	65
Communications & Media	52
Public Service	42
Manufacturing	40
Health	31
Personal Service	30
Transportation	28
Construction	27
Marketing & Distribution	22
Hospitality & Recreation	21
Fine Arts & Humanities	20
Consumer & Homemaking	19
Agri-Business & Natural Resources	17
Environmental Control	14
Marine Science	4

a = Refers to 15 occupational clusters suggested by the U.S. Dept. of Health, Education & Welfare (see Dull, 1972; Ressler, 1973).

TABLE 4

SUCCESSFUL OCCUPATIONS OF HANDICAPPED PERSONS AS REPORTED BY STATE DEPARTMENTS OF EDUCATION & STATE EASTER SEAL SOCIETIES BY D.O.T. CODE, OCCUPATIONAL CLUSTER & HANDICAPPING CONDITION

Part A: In Wheelchair, Self or Motor Propelled

Job Title	D.O.T. Code	Occupational Cluster
Architect	0[illegible]	Construction
Electronics technician *	003181	Manufacturing
Radio engineer	003.187	Manufacturing
Highway designer	005.081	Transportation
Statistician	020.188	Agri-Business, etc.
Research technician	029.181	Environmental Control
Marine scientist	041.081	Marine Science
School psychologist*	045.108	Public Service
Dietician	077.168	Consumer, Homemaking
Medical technician	078.381	Health
Speech therapist*	079.108	Public Service
Recreational therapist*	079.128	Transportation
Department head, college	090.168	Fine Arts, Humanities
Teacher	091.299	Fine Arts, Humanities
Teacher	092.228	Fine Arts, Humanities
Home economist	096.128	Environmental Control
Home economics director	096.168	Environmental Control
Budget consultant	096.268	Construction
Script writer	131.088	Communications, Media

TABLE 4 (Part A, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Script writer*	131.088	Communications, Media
Journalist*	132.268	Communications, Media
Book critic*	132.288	Communications, Media
Interpreter	137.268	Communications, Media
Translator	137.288	Communications, Media
Publishing, graphic art	141.081	Communications, Media
Commercial designer	141.281	Communications, Media
Artist	144.081	Fine Arts, Humanities
Sculptor*	148.081	Fine Arts, Humanities
Music teacher	152.028	Fine Arts, Humanities
Musical composition	152.048	Fine Arts, Humanities
Announcer*	159.148	Communications, Media
Program director	159.168	Communications, Media
Accountant*	160.188	Business & Office
Sales Manager*	163.118	Marketing, Distribution
Job analyst	166.088	Business & Office
Placement office	166.268	Business & Office
Office manager*	169.168	Business & Office
School board secretary	169.268	Public Service
Recreation supervisor*	187.118	Hospitality, Recreation
Theater manager	187.168	Business & Office
City manager	188.118	Business & Office
Air traffic controller	193.168	Transportation
Radio-telephone operator	193.282	Communications, Media

TABLE 4 (Part A, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Urban planner	199.168	Construction
Secretary*	201.368	Business, Office
Court reporter	202.388	Business, Office
Telephone operator	203.138	Communications, Media
Typist*	203.588	Business, Office
File clerk	206.388	Business, Office
Clerk typist*	209.388	Business, Office
Bookkeeper*	210.388	Business, Office
Cashier	211.368	Business, Office
Desk clerk	211,468	Hospitality, Recreation
Computer operator	213.382	Business, Office
Keypunch operator	213.582	Business, Office
Data handler*	213.588	Hospitality, Recreation
Payroll clerk	215.488	Business, Office
Clerk*	219.388	Business, Office
Rate Clerk*	219.488	Transportation
Records clerk*	223.388	Environmental Control
PBX operator*	235.862	Communications, Media
Telephonist	236.588	Business, Office
Receptionist*	237.368	Hospitality, Recreation
Reservations clerk*	249.368	Hospitality, Recreation
Medical records clerk	249.388	Health
Broadcast checker	249.688	Communications, Media
Insurance agent*	250.258	Marketing, Distribution

TABLE 4 (Part A, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Salesperson Ge	289.458	Marketing, Distribution
Junk buyer	291.158	Marketing, Distribution
Newspaper route super.	292.138	Marketing, Distribution
Telephone surveyor*	293.358	Marketing, Distribution
Home lighting advisor	299.258	Environmental Control
Housewife	303.138	Consumer & Homemaking
Babysitter	307.878	Hospitality & Recreation
Barbering	330.371	Personal Service
Cosmetology	332.271	Personal Service
Wig dresser	332.381	Personal Service
Electrologist	339.371	Personal Service
Gateman	344.868	Personal Service
Ticket dispenser	349.780	Public Service
Orderly*	355.878	Health
Shoe repair	365.381	Personal Service
Fingerprint technician*	375.388	Public Service
Police dispatcher*	379.368	Communications, Media
Vehicle driver	402.137	Transportation
Egg-washing machine operator	412.886	Agri-business, etc.
Dairy or milk tester	469.381	Agri-business, etc.
Plant supervision	529.132	Environmental Control
Dairy herd tester	529.886	Agri-business, etc.

TABLE 4 (Part A, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Paint making	550.885	Fine Arts, Humanities
Tower operator	558.885	Marine Science
Metal pattern maker	600.280	Manufacturing
Tool & die maker	601280	Manufacturing
Lapping machine oper.	603.885	Manufacturing
Bench inspector	609.684	Manufacturing
Office machine assembly technician	633.281	Manufacturing
Lens edger	674.886	Manufacturing
Thread inspector	681.687	Manufacturing
Jewelry manufacture	693.381	Manufacturing
Jewelry repair	700.281	Manufacturing
Equipment maintenance	710.884	Manufacturing
Watch repair*	715.281	Manufacturing
Coil winder	724.281	Manufacturing
Electronics	726.281	Manufacturing
Electronics components inspector	726.687	Manufacturing
Motion picture projectionist	729.281	Communications, Media
Assembler small products	739.887	Manufacturing
Seamstress*	782.884	Manufacturing
Packer-sorter	784.887	Agri-business, etc.
Sewing machine operator	787.782	Manufacturing
Soldering machine operator	814.885	Manufacturing
Painter	840.781	Fine Arts, Humanities

TABLE 4 (Part A, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Operations techniques	882.281	Marketing, Distribution
Airline dispatcher	912.168	Transportation
Taxi dispatcher*	919.168	Transportation
Ticket clerk	919.368	Transportation
Sign painter	970.381	Environmental Control
Assembly line worker	N.C.**	Manufacturing
Instrument repairs	N.C.	Personal Service
Dispatcher*	N.C.	Transportation
Artist*	N.C.	Fine Arts, Humanities
Musician	N.C.	Fine Arts, Humanities
IBM operator	N.C.	Business & Office
Teacher*	N.C.	Fine Arts, Humanities
Physician	N.C.	Health
Administrator*	N.C.	Public Service
Library worker*	N.C.	Hospitality, Recreation
Inventory efficiency analyst	N.C.	Marketing, Distribution
Technician*	N.C.	Health
Supervision	N.C.	Construction
Volunteer for elderly	N.C.	Public Service
Notary Public	N.C.	Public Service
Buyer	N.C.	Agri-Business, etc.
Elected official	N.C.	Public Service
Clerical	N.C.	Business & Office
Machine operator	N.C.	Manufacturing

TABLE 4 (Part A, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Income tax consultant	N.C.	Personal Service
Lawyer	N.C.	Personal Service
Activity coordinator	N.C.	Hospitality, Recreation
Home mailing service	N.C.	Agri-Business, etc.
Executive director	N.C.	Agri-Business, etc.
Program director health agency	N.C.	Health
Editor & public relations	N.C.	Communications, Media
Mid-management	N.C.	Marketing, Distribution
Record information	N.C.	Business & Office
Health maintenance	N.C.	Health
Communications skills	N.C.	Construction
Processing techniques	N.C.	Construction
Management	N.C.	Marine Science
Purchasing	N.C.	Communications, Media
State Easter Seal Society	N.C.	Communications, Media
Div. of Public Relations Research	N.C.	Marketing, Distribution

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Part B: In Wheelchair, Pushed by Someone

Job Title	D.O.T. Code	Occupational Cluster
Architect	001.081	Construction
Highway designer	005.081	Transportation
Statistician	020.188	Environmental Control

TABLE 4 (Part B, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Marine science	041.081	Marine Science
School psychologist	045.108	Public Service
Market analyst*	050.088	Consumer & Homemaking
Speech therapist	079.108	Public Service
Dept. Head, college	090.168	Fine Arts, Humanities
Teacher	091.299	Fine Arts, Humanities
Budget consultant	096.268	Construction
Script writer*	131.088	Communications, Media
Book critic*	132.288	Communications, Media
Translator	137.288	Communications, Media
Interpreter	137.268	Communications, Media
Sculptor	148.081	Fine Arts, Humanities
Announcer*	159.148	Communications, Media
Accountant*	160.188	Business & Office
Job analyst	166.088	Business & Office
Travel agent	168.268	Personal Service
School board secretary	169.268	Public Service
Vocational disability examiner	169.168	Business & Office
Radio operator	193.282	Communications, Media
Urban planner	199.168	Construction
Secretary	201.368	Business & Office
Typist	203.588	Business & Office
Clerk typist	209.388	Business & Office
Bookkeeper*	210.388	Business & Office
Desk Clerk	211.468	Hospitality, Recreation

TABLE 4 (Part B, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Computer operator	213.382	Business & Office
Keypunch operator	213.582	Business & Office
Clerk*	219.388	Business & Office
Rate clerk	219.488	Transportation
Timekeeper*	223.388	Construction
PBX operator	235.862	Communications, Media
Receptionist*	237.368	Hospitality, Recreation
Reservations clerk*	249.388	Hospitality, Recreation
Medical records clerk	249.388	Health
Broadcast checker	249.688	Communications, Media
Insurance agent	250.258	Marketing, Distribution
Telephone surveys	293.358	Marketing, Distribution
Babysitting	307.878	Hospitality, Recreation
Barbering	330.371	Personal Service
Cosmetology	332.271	Personal Service
Orderly	355.878	Health
Shoe repair	365.381	Personal Service
Fingerprint technician	375.388	Public Service
Police dispatcher*	379.368	Communications, Media
Plant supervisor	529.132	Environmental Control
Watch repair	715.281	Personal Service
Assembler small prod.	739.887	Manufacturing
Seamstress	782.884	Manufacturing
Packer-sorter	784.887	Agri-Business, etc.
Operations techniques	882.281	Marketing, Distribution

TABLE 4 (Part B, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Taxi dispatcher*	919.168	Communications, Media
Ticket clerk	919.368	Transportation
Package handler	920.887	Marketing, Distribution
Sign painter	970.381	Environmental Control
Assembly-line worker	N.C.	Manufacturing
Instrument repairer	N.C.	Personal Service
Dispatcher	N.C.	Transportation
Artist	N.C.	Fine Arts, Humanities
Musician	N.C.	Fine Arts, Humanities
IBM operator	N.C.	Business & Office
Machine operator	N.C.	Manufacturing
Lab technician	N.C.	Health
Income tax consultant	N.C.	Personal Service
Lawyer	N.C.	Personal Service
Counselor*	N.C.	Public Service
Educator	N.C.	Public Service
Home mailing service	N.C.	Marketing, Distribution
Teacher*	N.C.	Fine Arts, Humanities
Administrator	N.C.	Public Service
Food technician	N.C.	Consumer, Homemaking
Library worker	N.C.	Hospitality, Recreation
Painter	N.C.	Hospitality, Recreation
Inventory efficiency analyst	N.C.	Marketing, Distribution
Equipment maintenance	N.C.	Health

TABLE 4 (Part B, Continued

Job Title	D.O.T. Code	Occupational Cluster
Manager supplies	N.C.	Health
Dispatcher	N.C.	Transportation
Volunteer for elderly	N.C.	Public Service
Notary Public	N.C.	Public Service
Artist	N.C.	Fine Arts, Humanities
Buyer	N.C.	Agri-Business, etc.
Elected official	N.C.	Public Service
Clerical worker	N.C.	Business & Office
Executive	N.C.	Transportation
Menu planner	N.C.	Consumer, Homemaking
Auditor	N.C.	Business & Office
Record information	N.C.	Business & Office
Product inspector quality control	N.C.	Manufacturing
Health Maintenance	N.C.	Health
Processing techniques	N.C.	Construction
Management	N.C.	Marine Science
Estimator	N.C.	Construction

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Part C: Leg Amputee

Job Title	D.O.T. Code	Occupational Cluster
Designer	002.081	Communications, Media
Radio engineer	003.187	Communications, Media
Mechanical engineer	007.081	Manufacturing
Landscape architect	019.081	Agri-Business, etc.

TABLE 4 (Part C, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Statistician	020.188	Agri-Business, etc.
Research technician*	029.181	Environmental Control
School psychologist	045.108	Public Service
Researcher*	850.088	Marketing, Distribution
Medical technologist	078.381	Health
Speech therapist	079.108	Public Service
Occupational therapist	079.368	Health
Teacher*	091.299	Fine Arts, Humanities
Home economist*	096.128	Consumer & Homemaking
Consumer director of home economics	096.168	Consumer & Homemaking
Budget consultant	096.268	Construction
News analyst	131.068	Communications, Media
Script writer*	131.088	Communications, Media
Journalist*	132.268	Communications, Media
Book critic*	132.288	Communications, Media
Translator	137.288	Communications, Media
Commercial designer	141.281	Fine Arts, Humanities
Cameraman	143.062	Communications, Media
Artist	144.081	Fine Arts, Humanities
Sculptor	148.081	Fine Arts, Humanities
Music teacher	152.028	Fine Arts, Humanities
Broadcaster	159.148	Communications, Media
Accountant*	160.188	Business, Office
Manager supplies	162.158	Health

TABLE 4 (Part C, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Public Relations man	165.068	Business & Office
Job analyst	166.088	Business & Office
Placement office	166.268	Business & Office
Travel agent*	168.287	Personal Service
Vocational disability examiner	169.168	Business & Office
School secretary	169.268	Public Service
Bank cashier	186.168	Business, office
Custodian*	187.168	Personal Service
City manager	188.118	Business & Office
Assessor	188.188	Public Service
Air traffic controller	193.168	Construction
Radio operator*	193.282	Communications, Media
Case worker	195.108	Public Service
Urban planner	199.168	Construction
Radiation monitor	199.187	Consumer, Homemaking
Medical secretary*	201.368	Health
Court reporter*	202.388	Business & Office
Typist*	203.588	Business & Office
Record ward clerk	206.388	Health
Clerk typist	209.388	Business & Office
Bookkeeper*	210.388	Business & Office
Cashier	211.368	Business & Office
Toll collector*	211.468	Public Service
Computer operator	213.382	Business & Office

TABLE 4 (Part C, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Keypunch operator	213.582	Business & Office
Payroll clerk	215.488	Business & Office
Marine scientist	219.388	Marine Science
Clerk*	219.388	Business & Office
Rate clerk	219.488	Transportation
Shipping clerk	222.138	Marketing, Distribution
Records clerk*	223.388	Environmental Control
Telephone answering service*	235.862	Communications, Media
Receptionist*	237.368	Hospitality, Recreation
Telephone surveyor	293.358	Marketing, Distribution
Reservations clerk*	249.368	Hospitality, Recreation
Watch repairer	249.387	Manufacturing
Medical records clerk	249.388	Health
Broadcast checker	249.688	Communications, Media
Insurance agent	250.258	Marketing, Distribution
Home service rep.	278.258	Consumer, Homemaking
Salesman Gen*	289.358	Marketing, Distribution
Salesperson Ge	289.458	Marketing, Distribution
Junk buyer	291.158	Marketing, Distribution
Auctioneer	294.258	Marketing, Distribution
Home lighting advisor	299.258	Consumer & Homemaking
Bridal consultant	299.358	Marketing & Distribution
Housewife	303.138	Consumer & Homemaking
Cook	305.281	Personal Service

TABLE 4 (Part C, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Babysitter	307.878	Hospitality, Recreation
Cocktail lounge hostess	310.868	Hospitality, Recreation
Bartender	312.878	Personal Service
Cook	315.381	Manufacturing
Checker	319.388	Marketing, Distribution
Barber*	330.371	Personal Service
Cosmetologist*	332.271	Personal Service
Wig dresser	332.381	Personal Service
Electrologist	339.371	Personal Service
Gateman	344.868	Hospitality, Recreation
Ticket Dispenser	349.780	Hospitality, Recreation
Motel Recreation director	352.168	Hospitality, Recreation
Home attendant	354.878	Personal Service
Orderly	355.878	Health
Watchman	372.868	Construction
Fingerprint classifier	375.388	Public Service
Fish & game warden	379.168	Environmental Control
Police dispatcher	379.368	Communications, Media
Gardener	407.884	Agri-Business, etc.
Egg-washing machine op.	412.886	Agri-Business, etc.
Farmer	421.181	Agri-Business, etc.
Artificial breeding tech.	467.384	Agri-Business, etc.
Dairy or milk tester	469.381	Agri-Business, etc.
Pyrometer man	512.687	Manufacturer
Dairy herd tester	529.886	Agri-Business, etc.

TABLE 4 (Part C, continued)

Job Title	D.O.T. Code	Occupational Cluster
Tower operator	558.885	Marine Science
Waste-treatment operator	559.782	Environmental Control
Metal pattern maker	600.280	Manufacturing
Machine operator	600.380	Construction
Lapping machine operator	603.885	Manufacturing
Drill press operator tape control	606.782	Manufacturing
Bench inspector	609.684	Manufacturing
Machine repairman	626.281	Manufacturing
Office machine assembly technician	633.281	Manufacturing
Printer*	652.885	Manufacturing
Cabinet maker	660.280	Construction
Lens edger	673.886	Manufacturing
Wire sawyer	677.782	Manufacturing
Thread inspector	681.687	Manufacturing
Jewelry manfacturer	693.381	Manufacturing
Equipment maintenance	710.884	Health
Watchmaker	715.281	Manufacturing
Coil winder	724.781	Manufacturing
Electronics technician	726.281	Manufacturing
Electronics component inspector	726.687	Manufacturing
Upholsterer	780.884	Personal Service
Seamstress	782.884	Manufacturing
Packer, sorter	784.807	Agri-Business, Etc.

TABLE 4 (Part C, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Soldering machine op.	814.885	Manufacturing
Lather	842.781	Construction
Signalman	869.868	Construction
Septic tank serviceman	899.887	Construction
Tractor-trailer driver	904.883	Transportation
Truck driver	905.883	Transportation
Airline dispatcher	912.168	Transportation
Taxi driver*	913.363	Transportation
Taxi dispatcher*	919.168	Communications, Media
Ticket clerk	919.368	Hospitality, Recreation
Technical operator	930.188	Environmental Control
Service supervisor	954.782	Environmental Control
Water filter cleaner	959.887	Environmental Control
Teacher*	N.C.	Hospitality, Recreation
Library worker	N.C.	Hospitality, Recreation
Painter	N.C.	Fine Arts, Humanities
Inventory Efficiency analyst	N.C.	Fine Arts, Humanities
Technician	N.C.	Health
Supervisor	N.C.	Construction
Dispatcher*	N.C.	Transportation
Volunteer for elderly	N.C.	Public Service
Notary public	N.C.	Public Service
Legal services	N.C.	Public Service
Artist*	N.C.	Fine Arts, Humanities

TABLE 4 (Part C, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Mgr. day care center	N.C.	Communications, Media
Buyer*	N.C.	Agri-Business, etc.
Office manager	N.C.	Business & Office
Counselor*	N.C.	Perscnal Service
Inspector	N.C.	Construction
Lab Technician	N.C.	Marine Science
Asst. director YMCA	N.C.	Hospitality, Recreation
Clerical worker	N.C.	Business & Office
Repair services	N.C.	Public Service
Draftsman*	N.C.	Manufacturing
Office machine operator	N.C.	Manufacturing
Jewelry repairer	N.C.	Manufacturing
Editor & pub. relations	N.C.	Communications, Media
Publishing-graphic art	N.C.	Communications, Media
Menu planning	N.C.	Communications, Media
Radio dispatcher	N.C.	Communications, Media
Sales manager	N.C.	Marketing, Distribution
Estimator	N.C.	Construction
Salesperson	N.C.	Business & Office
Social worker	N.C.	Public Service
Politician	N.C.	Public Service
Vehicle driver	N.C.	Transportation
Workshop supervisor	N.C.	Public Service
Assembly line service	N.C.	Manufacturing
Driver	N.C.	Transportation

TABLE 4 (Part C, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Musician	N.C.	Fine Arts, Humanities
IBM operator	N.C.	Business & Office
Machine operator	N.C.	Manufacturing
Lab technician*	N.C.	Health
Income tax consultant	N.C.	Personal Service
Lawyer	N.C.	Personal Service
Educator	N.C.	Public Service
Physician	N.C.	Health
Administrator	N.C.	Public Service
Activity coordinator	N.C.	Hospitality, Recreation
Home mailing service	N.C.	Marketing, Distribution
Mechanic	N.C.	Agri-Business, etc.

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Part D: Arm Amputee

Job Title	D.O.T. Code	Occupational Cluster
Radio engineer	003.187	Communications, Media
Biologist	041.081	Marine Science
Researcher	050.088	Marketing, Distribution
School psychologist	045.108	
Speech therapist	079.108	Public Service
Occupational therapy aide	079.368	Health
Home economist*	096.128	Consumer, Homemaking
Budget consultant	096.268	Construction

TABLE 4 (Part D, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Script writer*	131.088	Communications, Media
Reporter	132.268	Communications, Media
Book critic*	132.288	Communications, Media
Interpreter	137.268	Communications, Media
Translator	137.288	Communications, Media
Commercial designer	141.281	Fine Arts, Humanities
Artist	144.081	Fine Arts, Humanities
Music teacher	152.028	Fine Arts, Humanities
Radio broadcaster*	159.148	Communications, Media
Program director	159.168	Communications, Media
Accountant*	160.188	Business, Office
Public relations man	165.068	Business & Office
Job analyst	166.088	Business & Office
Office manager	169.168	Business & Office
Custodian	187.168	Personal Service
Radio operator*	193.282	Communications, Media
Urban planner	199.168	Construction
Radiation monitor	199.187	Consumer, Homemaking
Secretary	201.368	Business & Office
Bookkeeper*	210.388	Business & Office
Data handler	213.588	Environmental Control
Payroll clerk	215.488	Business & Office
Timekeeper*	219.388	Construction
Records clerk	233.388	Business & Office
PBX operator*	235.862	Communications, Media
Receptionist*	237.368	Hospitality, Recreation

TABLE 4 (Part D, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Reservations clerk*	249.368	Hospitality, Recreation
Broadcast checker	249.688	Communications, Media
Junk buyer*	291.158	Marketing, Distribution
Telephone surveyor	293.358	Marketing, Distribution
Home lighting advisor	299.258	Consumer & Homemaking
Housewife	303.138	Consumer & Homemaking
Yardman	304.887	Personal Service
Gateman	344.868	Hospitality, Recreation
Flagman	372.868	Construction
Forest service ad.	441.384	Agri-Business, etc.
Dairy or milk tester	469.381	Agri-Business, etc.
Pyrometer man	512.687	Manufacturing
Dairy herd tester	529.886	Agri-Business, Etc.
Tower operator	558.885	Marine Science
Waste treatment operator	559.782	Environmental Control
Machinist	600.280	Manufacturing
Bench inspector	609.684	Manufacturing
Cabinet maker	660.280	Manufacturing
Wire sawyer	677.782	Manufacturing
Thread inspector	681.687	Manufacturing
Electronics technician	726.281	Manufacturing
Fitter	801.281	Construction
Auto parts man	806.884	Transportation
Painter	840.884	Construction

TABLE 4 (Part D, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Lather	842.781	Construction
Carpenter	860.381	Construction
Insulation hoseman	863.884	Construction
Roofer	866.381	Construction
Signalman	869.868	Construction
Septic tank serviceman	899.887	Construction
Taxi driver	913.363	Transportation
Taxi dispatcher	919.168	Communications, Media
Technical operator	930.188	Environmental Control
Service supervisor	954.782	Environmental Control
Water filter cleaner	959.887	Environmental Control
Food technician	N.C.	Consumer & Homemaking
Teacher*	N.C.	Hospitality, Recreation
Painter	N.C.	Fine Arts, Humanities
Manager supplies	N.C.	Health
Inventory efficiency analyst	N.C.	Marketing, Distribution
Mgr. day care center	N.C.	Communications, Media
Buyer*	N.C.	Agri-Business, etc.
Counselor*	N.C.	Personal Service
Dispatcher*	N.C.	Transportation
Public elected official	N.C.	Public Service
Draftsman	N.C.	Manufacturing
Social worker*	N.C.	Public Service
Mid-management	N.C.	Environmental Control
Task analyst	N.C.	Hospitality, Recreation

TABLE 4 (Part D, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Artist*	N.C.	Fine Arts, Humanities
Salesperson	N.C.	Business & Office
Politician	N.C.	Public Service
Easter Seal executive	N.C.	Public Service
Workshop supervisor	N.C.	Public Service
Driver	N.C.	Transportation
Income tax consultant	N.C.	Personal Service
Lawyer	N.C.	Personal Service
Educator	N.C.	Public Service
Market Manager	N.C.	Marketing, Distribution
Physician	N.C.	Health
Home worker	N.C.	Personal Service
Administrator	N.C.	Public Service

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Part E: Poor Coordination

Job Title	D.O.T. Code	Occupational Cluster
Architect	001.081	Construction
Radio engineer	003.187	Communications, Media
Landscape architect	019.081	Agri-Business, etc.
School psychologist	045.108	Public Service
Researcher	050.088	Marketing, Distribution
Speech therapist	079.108	Public Service
Budget consultant	096.268	Construction
Manager (radio, TV)	131.038	Communications, Media

TABLE 4 (Part E, Continued)

Job Title	D.O.T. Code	Occupational Cluster
News analyst, broadcaster	131.068	Communications, Media
Writer*	132.088	Fine Arts, Humanities
Copy writer	132.088	Fine Arts, Humanities
Book critic*	132.288	Communications, Media
Interpreter	137.268	Communications, Media
Translator	137.288	Communications, Media
Announcer*	159.148	Communications, Media
Program director	159.168	Communications, Media
Accountant*	160.188	Business, Office
Editor, public relations	165.068	
Job analyst	166.088	Business, Office
Travel agent	168.268	Personal Service
Vocational disability examiner	169.168	Business, Office
Recreation director	187.118	Hospitality, Recreation
Custodian*	187.168	Personal Service
Assessor	188.188	Public Service
Radio operator*	193.282	Communications, Media
Caseworker	195.108	Public Service
Urban planner	199.168	Construction
Secretary	201.368	Business & Office
Typist	203.588	Business & Office
File clerk	206.388	Business & Office
Bookkeeper*	210.388	Business & Office
Desk clerk	211.468	Hospitality, Recreation

TABLE 4 (Part E, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Checker*	219.388	Marketing, Distribution
Stock broker	219.488	Business & Office
Telephone answering service	235.862	Communications, Media
Telephonist	236.588	Business & Office
Receptionist*	237.368	Hospitality, Recreation
Broadcast checker	246.688	Communications, Media
Reservations clerk*	249.368	Hospitality, Recreation
Junk buyer	291.158	Marketing, Distribution
Newspaper route sup.	292.138	Marketing, Distribution
Telephone surveyor*	293.358	Marketing, Distribution
Cook	313.381	Personal Service
Kitchen worker	318.887	Personal Service
Fingerprint classifier	375.388	Public Service
Police dispatcher	379.368	Communications, Media
Gardener	407.884	Agri-Business, etc.
Upholsterer	780.884	Personal Service
Signalman	869.868	Construction
Ticket clerk	919.368	Transportation
Stock boy	922.887	Marketing, Distribution
Teacher*	N.C.	Fine Arts, Humanities
Buyer	N.C.	Manufacturing
Counselor*	N.C.	Personal Service
Social worker	N.C.	Public Service
Administrator	N.C.	Public Service
Artist	N.C.	Fine Arts, Humanities

TABLE 4 (Part E, Continued)

Job Title	D.O.T. Code	Occupational Cluster
Income tax consultant	N.C.	Personal Service
Lawyer	N.C.	Personal Service
Educator	N.C.	Public Service
Post office employee	N.C.	Public Service
Lab technician	N.C.	Health
Rehabilitation counselor	N.C.	Health
Clerical worker	N.C.	Business & Office
Paramedical services	N.C.	Health

*Item reported by more than one respondent

**Note: N.C. = not codable - not possible to code item because of insufficient information.

SECTION III: ALUMNI EMPLOYMENT HISTORY

An individually typed cover letter from the Superintendent of the Massachusetts Hospital School, a follow-up survey instrument and a stamped, pre-addressed return envelope was mailed to each graduate of the graduating classes of the previous six years (1968-1973), 65% males, 35% females. A second mailing was sent to the non-respondents approximately four weeks later. This mailing consisted of a carbon copy of the first mailing cover letter, a second copy of the follow-up instrument and a stamped return envelope. On the upper left hand corner of the carbon letter was a handwritten note urging the graduate to respond.

The survey instrument requested information of several dimensions, which are reported elsewhere in this report. The data concerning jobs reported by graduates are reported in some detail in this section in order to provide comparisons with the state and national job pictures.

RESULTS AND DISCUSSION

Total return rate was 53%. Of the 69 letters mailed, 7 were undeliverable.

Concerning the employment history of the 33 alumni, 8 (24.2%) of the alumni responding have held full time jobs continuously since graduation. Many had held part-time positions or full-time positions for varying periods of time; a total of 18 of the 25 (72%) who were not in full-time post-high school programs had held some kind of a job at least part-time. Two graduates have been employed in "sheltered workshops."

Table 5 reports the number of positions by occupational cluster (i.e. HEW's 15 clusters, see Dull, 1972; Ressler, 1973). Please note that the alumni report working in only 8 of the 15 clusters. Table 6 reports types of positions. Table 7 lists job titles and appropriate _Dictionary of Occupational_ Titles codes (D.O.T.).

TABLE 5

ALUMNI EMPLOYMENT BY OCCUPATIONAL CLUSTER[a]

Cluster[c]	No. of Positions
Hospitality & Recreation	2
Marketing & Distribution	1
Business & Office	2
Manufacturing	7
Health	2
Transportation	1
Marine Science	1
Public Service	8[b]
TOTAL	24

[a] There are more "jobs" than alumni reporting jobs, e.g. some alumni have held more than one job since graduation.

[b] Two alumni reported themselves as clients in sheltered workshops. Classification here is arbitrary.

[c] Refers to the 15 occupational clusters suggested by the U.S. Dept. of Health, Education & Welfare. (See Dull, 1972, Ressler, 1973)

TABLE 6

ALUMNI EMPLOYMENT BY JOB TYPE[a]

Job Type	No. of Positions
Clerical	10
Technical, skilled or manual	5
Semi-skilled to Unskilled	4
Human Services	3
Unknown[b]	2
TOTAL	24

[a] There are more "jobs" than alumni reporting jobs, e.g. some alumni have held more than one job since graduation.

[b] Two respondents reported working in a specific occupational cluster but did not report exact job title.

TABLE 7

ALUMNI EMPLOYMENT HISTORY: JOB TITLE,

D.O.T. CODE, OCCUPATIONAL CLUSTER AND

TYPE OF EMPLOYMENT

JOB TITLE	D.O.T. CODE[a]	OCCUPATIONAL CLUSTER[b]	TYPE OF EMPLOYMENT
Recreation Director	187.118	Hospitality & Recreation	Full-time (Summer only)
Camp Counselor	159.228	Hospitality & Recreation	Full-time (Summer only)
Clerk	209.388	Marketing & Distribution	Full-time (Summer only)
Clerk	209.388	Business & Office	Full-time
Clerk	209.388	Business & Office	Full-time (Summer only)
Clerk	209.388	Manufacturing	Full-time
Secretary	201.368	Manufacturing	Full-time
Switchboard Operator	235.862	Manufacturing	Full-time
Technician	N.C.[c]	Manufacturing	Full-time
Technician	N.C.[c]	Manufacturing	Full-time
Electronic Assembler	729.884	Manufacturing	Full-time
Machine Operator	619.885	Manufacturing	Full-time
Dispatcher	919.168	Health	Part-time

TABLE 7 (continued)

ALUMNI EMPLOYMENT HISTORY: JOB TITLE,

D.O.T. CODE, OCCUPATIONAL CLUSTER AND

TYPE OF EMPLOYMENT

JOB TITLE	D.O.T. CODE[a]	OCCUPATIONAL CLUSTER[b]	TYPE OF EMPLOYMENT
Systems Coordinator	N.C.[c]	Health	Full-time
Unknown	N.C.[c]	Marine Science	Full-time
Secretary	201.368	Transportation	(lasted only 2 weeks)
Surgical Technician	079.378	Public Service	Full-time
Truck Dispatcher	919.168	Public Service	Full-time
Case Worker	N.C.[c]	Public Service	Full-time
Draftsman	N.C.[c]	Public Service	Full-time
Clerk	219.388	Public Service	Full-time
Dispatcher	N.C.[c]	Public Service	Full-time
Unknown (2 alumni)	N.C.[c]	Public Service	Full-time, CLIENTS in workshops

[a] Dictionary of Occupational Titles, Washington, D.C. (U.S. Department of Labor, 1965, Vols I & II)

[b] Refers to the 15 occupational clusters suggested by the U.S. Dept. of Health, Education & Welfare (see Dull, 1972; Ressler, 1973).

[c] N.C. = Not Codable - not possible to code item because of insufficient information.

SECTION IV: STUDENT INTEREST AREAS

The Vocational Preference Inventory (VPI), developed by Holland (1965), was administered to 28 males and 16 females in grades 9-12 at the Massachusetts Hospital School (MHS). Mean subscale scores were computed for the group of males and the group of females and an "average male" and an "average female" profile for each group was drawn. Tentative VPI letter codes were established by combining mean subscale scores and most frequent response scores by sex. Using procedures developed by Viernstein (1972), these data were converted to three digit D.O.T. codes. Some examples of job areas represented by these codes are reported below, followed by a complete listing by codes only.

I. MALES

(High interest VPI codes were AC; moderate interest VPI codes were RI; low interest codes were SE.)

A. Sample Job Interest Areas	3 Digit D.O.T. Code	3 letter[a] V.P.I. (Holland)
Architectural Occupations (e.g. 901.281, Architectural Draftsman).	001	AIR
Nuclear Engineering Occupations (e.g. 015.181 Accelerator Oper.)	015	IRA
Draftsmen, n.e.c.	017	RIA

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a = see Viernstein, 1972, pp. 114-117.

Job Interest Areas	3 Digit D.O.T. Code	3 Letter V.P.I. (Holland)
Occupations in Mathematics (e.g. 020.188 Actuary)	020	IRA
Painters & Related Occupations (e.g. 144.281 Paintings Restorer)	144	AIR
Sound Recording, Transcribing and Reproduction Occupations (e.g. 194.281 Sound-Effects Man)	194	RAI
Duplicating Machine Operators	207	CRI
Miscellaneous Office Machine Operators	208	CRI
Computing Machine Operators	216	CIR
Shipping & Receiving Clerks	222	RIC
Apparel & Furnishing Service Occupations (e.g. 361.448 Ticket Person)	36	RIC
Pickling, Degreasing, Cleaning & Related Occupations (e.g. 503.887 Cleaner)	503	RIC
Mixing & Blending Occupations (e.g. 550.131 Cosmetics Foreman)	550	RIC
Gear Machine Operations (e.g. 602.382 Gear Inspector)	602	RIC
Modelmakers, Patternmakers and Related Occupations	693	RAI
Misc. Machine Trades Occupations (e.g. 699.885 Button-Attaching Machine Operator	699	RCI
Occupations in Fabrication, Assembly and Repair of Metal Products, n.e.c. (e.g. 700.281 Brooch Maker)	700	RIC
Occupations in Assembly & Repair of Radio and Television Receiving Sets & Phonographs	720	RIC

Job Interest Areas	3 Digit D.O.T. Code	3 Letter V.P.I. (Holland)
Painting, Decorating and Related Occupations (e.g. 740.381 Decorator, Glass.)	74	RIA
Motion Picture Projectionists	960	RCI

B. Complete Listing by Codes (males)[b]

V.P.I.	D.O.T.
AIR	001
IRA	015
RIA	017
IRA	020
IAR	021
IRA	022
IAR	023
IRA	024
IRA	025
IRA	029
IAR	055
AIR	144
AIR	148
RAI	194
IRC	196
ICR	199
CRI	207
CRI	208
CIR	216
RIC	222
CRI	229
RCI	304
RIC	36
RIC	411
RIC	413
RIC	419
RIC	42
RIC	45
RIC	46
RIC	503
RIC	504
RIC	505
RIC	509
RIC	54
RIC	550
RIC	551
RIC	552
RIC	553
RIC	554
RIC	555
RIC	556
RIC	557
RIC	559
RIC	56
RIC	57
RIC	59
RIC	602
RIC	603
RIC	604
RIC	606-09
RIC	613
RIC	630
RIC	632
RCI	633
RIC	64
RIC	65
RIC	66
RIC	67
RIC	690
RIC	691
RIC	692
RAI	693
RCI	694
RCI	699
RIC	700
RIC	701
RIC	703
RIC	705
RIC	706
RIC	709
RIC	711
RIA	712
RIC	714-716
RIC	719-721
IRC	722
RIC	723-729
RIC	73
RIA	74
RIC	75, 76, 77
RCI	79
RIC	81
RIC	827-29
RCI	840-845
RCI	849
RIC	860
RIC	93
RCI	94
RIC	952
RCI	960
AIR	970-973
RAI	977
AIR	979

[b] b. = Complete listing of codes reflects only interest levels of group as a whole (averages). Some of the occupations listed upon closer examination may be found to be inappropriate for some (or all) students by reason of handicapping conditions, hiring restrictions, ability levels, etc.

II. FEMALES

(High interest VPI codes were RC; moderate interest code was I; low interest VPI codes were SE.)

A. SAMPLE JOB INTEREST AREAS	3 Digit D.O.T. Code	3 Letter[a] V.P.I. (Holland)-
Surveyors, n.e.c. (e.g. 018.281, Map Editor	018	RCI
Duplicating Machine Operator	207	CRI
Miscellaneous Office Machine Operators	208	CIR
Shipping & Receiving Clerks	222	RIC
Apparel & Furnishing Service Occupations (e.g. Ticket Person)	36	RIC
Poultry Farming Occupations (e.g. 412.886, Egg-Washing Machine Operator	412	RIC
Mixing & Blending Occupations (e.g. 550.131, Cosmetics Foreman)	550	RIC
Gear Machine Operations (e.g. 602,382, Gear Inspector	602	RIC
Miscellaneous Machines Trades Occupations (e.g. 699.885, Button-Attaching Machine Operator)	699	RCI
Occupations in Assembly & Repair of Radio & Television Receiving Sets & Phonographs	720	RIC
Motion Picture Projectionist	960	RCI

[a] = see Viernstein, 1972, pp. 114-117

B. Complete Listing By Codes (females)[b]

V.P.I.	D.O.T.
RCI	013-014
IRC	196
ICR	199
CRI	207-08
CIR	216
RIC	222
CRI	229
RCI	304
RIC	36
RIC	378
RIC	40
RIC	411-412
RIC	419
RIC	42
RIC	45
RIC	46
RIC	503-505
RIC	509
RIC	54
RIC	550-557
RIC	559
RIC	56
RIC	57
RIC	59
RIC	602-604
RIC	606-609
RIC	613
RIC	630
RIC	632
RCI	633
RIC	64
RIC	65
RIC	66
RIC	67
RIC	690-692
RCI	694
RCI	699
RIC	700-701
RIC	703
RIC	705-706
RIC	709
RIC	711
RIC	714-716
RIC	719-729
RIC	73
RIC	75
RIC	76
RIC	77
RCI	79
RIC	81
RIC	827-829
RCI	840-41
RCI	843
RCI	845
RCI	849
RIC	860
RIC	919
RIC	93
RCI	94
RIC	951-952
RCI	960
RIC	974-975

b. = Complete listing of codes reflects only interest levels of group as a whole (averages). Some of the occupations listed upon closer examination may be found to be inappropriate for some (or all) students by reason of handicapping conditions, hiring restrictions, ability levels, etc.

CURRENT PROGRAM AND POPULATION

General Description

A general description of the overall facility of the Massachusetts Hospital School is provided in a booklet published by the MHS and will not be repeated in detail here. However, comments on relevant aspects will be made in the text of the report. The term "hospital school" describes the overall center, which was established by an act of the Massachusetts legislature (General Court) in 1904, and which has served many hundreds of handicapped children since that time.

Physical Facility:

The educational programs are located in a modern building which appeared to be in excellent repair. In appearance the school rooms, corridors, and other space are much like school buildings elsewhere in that there are classrooms, library, toilet facilities conveniently located, office space for administrative staff, laboratories, home economics units, music practic rooms, etc. However, as one goes through the building, one notes numerous bits of evidence that careful consideration has gone into planning for easy use by physically handicapped students. Corridors and doorways are wide, bulletin boards set low enough for wheelchair students to see well, rooms are quite large and wheelchairs can easily maneuver in them. There are gently inclined ramps which facilitate entry into the building. The auditorium is especially arranged with separate levels for convenience of students in wheelchairs or in bedcarts. The rooms are bright, with good lighting arrangements and provisions for ventilation.

A unique feature of the school is the total-school closed circuit television system. Each classroom and the areas where children are confined to beds has two-way communication. Thus, children can continue school programs through the television arrangements even when the children are in hospital. This provision is a great asset. (There are cameras and many other audio-visual pieces of equipment, as well as "software" for use with equipment.)

The location of the hospital school is convenient to the Boston area by car, but it is not very convenient by public transportation. There is very great advantage in the spacious grounds and beautiful surroundings but these very assets become something of a liability when one must consider the problems of independent mobility for physically handicapped persons. For example, even if frequent good public transportation were available, the student would have to transport himself some distance from the road to the school buildings.

The buildings and grounds were well-kept and attractively decorated. The rooms were clean, but not so compulsively neat as to discourage using them. Attractive pictures and posters and other decorations were placed appropriately in the rooms and halls. In one wing of the school building complex, there are photographs of the graduating classes going back for decades; these provide an interesting historical perspective on students served at MHS, as well as insight into styles of equipment available to the physically handicapped through the years.

There was no obvious crowding in the facility, although the rooms in one wing of the building were somewhat smaller and less bright than others.

Equipment:

Equipment for the classrooms included the usual classroom furniture as well as the closed-circuit television equipment and modifications in some equipment to meet the needs of students (e.g. table height). The rooms looked like large, fairly typical schoolrooms. Thus, the "normalization" of the school's equipment was evident. Discussion with faculty indicated that the closed-circuit television equipment is especially helpful.

The rooms where special subjects were taught were appropriately equipped (e.g. typewriters in business rooms, homemaking equipment in home economics department, laboratory equipment in science areas). Although there is almost certainly a list of equipment and materials needed by teachers for particular activities, that which was noted in going through the building was of good quality and appropriate.

Special prosthetic devices for individual students were noted frequently; these were generally related to the medical aspects of rehabilitation and included a variety of braces, artificial limbs, walkers, different types of wheelchairs with varied provision for propelling them, as well as prescription devices for improving hearing and sight. The physical and medical program are not a part of this report (except as they may affect educational provisions) and will not be discussed further.

In the administrative areas there were filing cabinets for records and provisions for maintaining confidentiality of the records.

Records:

For each person served at MHS there is a central file. In addition, educational records are maintained in the administrative area of the building. Records for students at all levels were studied to determine the types of records kept, the degree to which records were current, and the types of educational services provided.

Each child's record was kept in a separate folder, alphabetized by grade level. Records were in good order, neat, legible, and in sturdy filing cabinets. The materials in these cumulative record folders varied depending on grade level and other factors. For all except a tiny minority, the following were available:

Face sheet data with identifying and emergency information;

At least one psychological report;

Standardized achievement information;

"Report card" and narrative report information to indicate progress;

Correspondence concerning students.

For some folders there was additional information. For example, some folders contained notes from parents, reports from other schools, and records of the demerits earned by the student.

Materials were studied to determine the degree to which filed information was useful in evaluating the students. The report cards and other teacher-provided information gave some information of the plan of service for the student, but there was no actual "program plan" or "remedial plan," or long-term plan of action which could be used for action and against which progress could be measured. Such long-term plans are not, of course, very common in public schools yet, but they might be exceedingly helpful in a highly specialized program such as this, particularly in view of the many problems faced by the students and the fact that some students will be temporary and thus in need of specific information when they transfer back to public schools. Public school personnel usually are not cognizant of the special problems inherent in planning for physically handicapped students and a plan for education which included long-term and short-term goals with specific approaches to meet those goals would be helpful.

The records were current and carefully reported. For some of the report cards (especially older ones), there was little explanation of the meaning of symbols used and there were frequent subjective comments without supporting evidence. In view of the "right-to-know" trend in the country today, it would probably be well to consider very carefully just what types of comments should be recorded and which one would not object to having the students themselves read.

The records indicated obvious concern on the part of faculty for students and it appears that a number of the faculty serves in an informal way as "guidance" aids for the students.

The fact that records were kept in loose form in folders meant that it was somewhat difficult to use them. Loose papers get mixed up with use and then mistakes are more likely to occur. Furthermore, one finds a mixture of achievement test forms, letters from parents, and other information in no organized order. It would be helpful if a simple system were agreed upon and at least groups of pages fastened together, preferably chronologically, with newest data on the front.

Reports of ancillary and supportive services were rare except for psychological reports on each student. The psychological reports consisted primarily of a discussion of the results of an individually administered intelligence test and perhaps one other clinical device (e.g. Bender-Gestalt). In many cases the full scale had not been administered because of the student's physical problems. Surprisingly, only the Wechsler scales or the Binet scales had been used in most cases and there was no indication that efforts had been made to gain further data by use of some of the tests which might be helpful for use with a physically handicapped person. In the rare cases where something other than the WISC or Binet had been used, the substitute was likely to be a test of very limited usefulness such as the Peabody Picture Vocabulary Test or the Slosson. Rarely had measures of personality been attempted. The only interest measures were from teachers rather than the psychologist, and there was no indication of a thorough psychoeducational evaluation done by the psychologist. Furthermore, at least in these records, it was not clear that a thorough on-going program of psychoeducational evaluation was being carried out. Apparently, the psychological services have been limited for the most part to an effort to determine the general intellectual level of the student and apparently for the purpose of establishing eligibility for the program. There were no indications of the work of a highly skilled school psychologist or educational psychologist making input into the program.

In providing the project staff with access to the records, the administrative personnel at the school showed clear awareness of the need to maintain confidentiality of records. They were extremely cooperative without jeopardizing confidentiality.

Current Students

School Population - 1973-74:

Efforts were made to determine the characteristics of the population currently being served by the MHS. Because of recent emphasis on integrating as many disabled students as possible into regular classes or special programs in public schools in the home community, it is not surprising that the 1974 population at MHS is different in proportions of severely handicapped from that in prior years; thus an evaluation of the situation at this time may differ in that the children served probably are those who cannot be readily integrated into ordinary schools. Among those would be children with major mobility problems, those with severe disability in arm and hand use, and the multiply handicapped. Data were reported by the faculty at MHS, direct observations were made, and for some students, tests were used. In order to keep interference with the regular school work at a minimum, direct work with students was limited to those in grades 9 through 12, the group more concerned with occupational decisions at this time.

Handicapping Conditions:

A list of all current students was marked with a coding system to indicate the handicap in locomotion, speech problems, etc. Since the number of students in any school varies during the year and since changes of student population affect the number of students with any particular condition, these data should be considered as being approximate; small variations of percentages would be expected from time to time, but these figures probably give a reasonable estimate of the population to be expected in the near future. From these data it appears that a large majority of the students can use the regular school facilities, although it takes more time for many of them to move about than would be true in ordinary schools. Listed below are the percentages of pupils using various methods of locomotion; the total is more than 100% because some students use more than one means at different times. (Percentages rounded off.)

1.	Ambulatory without aids	17%
2.	Crutches	17%
3.	Walker	2%
4.	Wheelchair, self-propelled/electric	45%
5.	Wheelchair, pushed by others	16%
6.	Wheelchair, unspecified	2%
7.	Red cart or bedcart	5%

Thus, it appears that about 80% of the students (1 through 4 above) can move about without another person's aid, at least within the building. About 20% need another person to help them move about the building. The degree to which one is mobile has a profound effect on occupation and job marketability. It seems unlikely that most students who are in categories 5 through 7 above will be able to engage in work outside the home and it would be extremely difficult for those whose wheelchairs must be pushed to do so. Thus, it would appear imperative that many of the category 5-7 students learn about job opportunities and skills which could be managed without travel; this generalization, like most generalizations, cannot apply to every student, but for the group (5-7) as a whole, it would seem important to plan programs which introduce students to vocational activities which require minimal transportation.

Dual handicaps are not uncommon in the population. About 8% had serious hearing problems, a proportion which is higher than that of the hearing handicapped in the general population of children of their ages. Over 13 per cent had serious speech problems; this figure is also well in excess of that found in the general population. Ability to write with pen or pencil was estimated for students in grades 3 through 12, the first two grades being omitted because many of them may be too young to write. There were about 11 per cent with no functional writing and another 16 per cent whose writing was either very slow or not very legible. Thus, more than one-fourth of the group has a serious problem in written communication. From these figures, it is obvious that a heavy proportion of the students is multiply handicapped; in the opinion of the project staff, most of them could not be given adequate educational opportunities in a regular public school at this time without major modifications in the public school program and facility.

Direct observations of students in grades 9 through 12 were made on a check list of items to determine the presence of characteristics which interfere in varying degrees with certain occupational activities. For the 46 students observed, findings were:

Arm/Hand Use:	
Full use both arms and hands	47.8%
Full use one arm and hand	4.3%
Some use, requires help	32.6%
Gross movements only	8.7%
No functional use	6.5%
Ambulation:	
No difficulty walking	4.3%
Limps or walks unsteadily	6.5%
Walks with crutches	10.9%
Uses walker	2.2%
Wheelchair-self/battery propelled	56.6%
Wheelchair-pushed	15.2%
Not ambulatory-transported	4.3%
Spasticity:	
No obvious evidence of spasticity	67.4%
Mildly spastic, but functional	17.4%
Moderately spastic, serious problems	6.5%
Severely spastic, gross problems	8.7%
Communication: (any manner)	
Speech-language complexity:	
Communicates with complex concepts	89.1%
Few simple sentences	2.2%
Few words only	4.3%
Speech articulation:	
No obvious problems	78.3%

Somewhat difficult to understand (substitutions, lisps, omissions)	13.0%
Hard to understand unless well known to listener	2.2%
No effective speech	4.3%
Comprehension of language:	
No problems apparent	100%
Eating Skills:	
No problems, would not be obvious in a restaurant	63.0%
Adequate for eating, but obvious difficulties (e.g. cutting meat)	10.9%
Skills inadequate, needs much aid	13.0%
Must be fed	13.0%
Toilet Skills:	
No problems, independent use of toilet	63.0%
Dependent on help to some extent	37.0%
Visibility of Disability:	
No visible problems (not obvious)	2.2%
No problems visible until movement attempted	6.5%
Visible - braces, amputation, or other immediately apparent index	63.0%
Immediately obvious and attention-getting	28.3%

These figures give some indication of areas in which there are strengths and areas in which compensatory techniques or equipment may be needed. The data suggest strongly that a majority of the students have made great progress toward self-sufficiency and have good potential for careers. A minority, primarily those with multiple handicaps and/or little use of arms and speech, may need very careful guidance in order to develop career plans and work toward them.

Academic Aptitude and Curriculum:

In planning a career, one must give consideration to the training needed for specific occupations. For some types of jobs it is necessary to obtain on-the-job instruction; for some, one needs to have technical skill training; and for some, one needs a college degree or advanced college work. The degree to which a given individual is able to master the training at these various levels is an important consideration in planning vocations.

Data from a large number of studies strongly support the opinion that measured intelligence is fairly highly related to ability to master the traditional high school curriculum and the college curriculum, as well as advanced graduate work and move into careers which require such training (e.g. Thorndike and Hagen, 1959).

In order to obtain a general picture of the present high school students at MHS and make an estimate of the academic aptitude of these students, two resources were used. First, the cumulative folder of each student was studied to learn what progress had been made in the past. The standardized achievement tests for past years were available, but these could not be of great help because many of the tests had been given with time limits omitted because of student handicaps in writing. Such testing can be of considerable help in planning for individual students, but the results of the tests cannot be used to make predictions about the future because norms for the test are invalidated for populations on whom time limits are varied. Thus, only clinical impressions were gained from the achievement tests.

In almost every folder was at least one protocol or psychologist's report concerning an individually administered intelligence test and these were studied. The commonly used tests were the Wechsler Intelligence Scale for Children and the Stanford-Binet Intelligence Scale. For a few children, there were short form or brief intelligence scale protocols, but since these were of tests which have limited predictive validity, the results of the WISC and Binet were used in most cases. For some students, only the verbal scale of the WISC was available because the student's physical disability precluded giving the Performance Scale; however, the psychologists had generally attempted to give all sub-tests possible and had pro-rated to compensate for those sub-tests which could not be given. In general, the testing had been done within the past few years but about 15% of them were quite old (e.g. 1965). Since it has been shown that important changes in intelligence scores are more likely to occur in the earlier years and that for the general population, the scores obtained in the early teens are reasonably good predictors of later intelligence (Cronbach, 1963), the scores available in the folders are probably fairly close to what would be obtained with re-tests. There is additional confirmatory evidence in the general stability of test scores for given individuals who had been tested more than once, with the change seldom being more than a few points different on re-test. Therefore, it can be assumed that the test results in the folders provide some useful data for making estimates of academic ability.

Another resource for predicting academic achievement was one of the sub-tests of the Jr.-Sr. High School Personality Questionnaire, which was administered as a part of this study. This sub-test is designed to measure the source trait which Cattell (1969) refers to as "Crystallized power measure," Factor B of the HSPQ. Cattell reports,

> "...the principal object in measuring Factor B is not to add personality information in the narrower sense, but to complete the measurement of factors important in most school and clinic predictions by adding a good, brief general ability measure...the main dimension of abilities, that of general mental capacity (Spearman's 'g'), is always important, so here it is given its proper role alongside the personality dimensions of about equal predictive value...The B Factor measure is, therefore, in intelligence test terms, a power, not a speed measure. All this may be summarized by saying that it measures 'crystallized' rather than 'fluid' general ability." (p. 28).

Data for each student were compared, the WISC and the Factor B results weighed together and against evidence of academic achievement from other tests. In general, there was a high degree of consistency; where results differed for a given individual, the differences were generally relatively small. Therefore, it is believed that the statements to be made about the academic achievement aptitude of the high school students at MHS are generally reliable. However, it should be recognized that personality factors such as perseverance and work habits are also important and so a student with high aptitude may do less well than predicted and one with lower aptitude may work with great effort and high motivation and thus achieve somewhat more than would be predicted on the basis of tests alone.

Impression: Specific data on test results will not be reported here because the data were brought together for individual students and a clinical judgment made on the basis of all the information available on academic aptitude. On the basis of the decisions made in these evaluations, the following picture emerged:

Classification Assigned	Per Cent of Current High School Students
Four Year College level	22.7%
Technical School, or skilled occupation level	68.2%
Semi-skilled or some skilled occupations level	4.5%

On the basis of these estimates, it would appear that there may have been some changes in the general population at the MHS in the past few years. This may be a reflection of some increase in serving handicapped persons in regular public schools. It may also reflect some increase in more seriously handicapped children. It may also be related to some changes in policy at the school. Whatever the factors involved, it appears that a fairly large proportion (about 65%) of the students are of "average" intellectual ability (i.e. IQ range 90-110) and about 15% appear to be low average or somewhat slow in ability. Since the "rule-of-thumb" figure for four-year college work is at about 110 IQ, it would appear that college work may not be the best choice for many students. This observation is supported by the SAT scores of the seniors, with the numbers running just under 300 on a scale of 200 to 800 with a 500 mean for the high school students across the country who take the test. Since only about one-third of U.S. students eligible (presumably those who plan to attend college) take the SAT (or College Boards), the scores are not especially low as compared with all high school students, but only as compared with college bound ones.

The Factor B results from the HSPQ are reported as "sten" scores, a scale in which scores can range from 1 through 10, with 5.5 being the mean. About 40% of the students taking the HSPQ obtained "average" stens of 4 to 6, about 12% were at 7 or above, and the rest were below 3. These data seem slightly lower than the ones reported from the individual intelligence tests, but this may be in part due to the brevity of the Factor B measure and the fact that as a group test it may have been more affected by extraneous factors during testing. The results are generally in the same direction as those reported above.

Taken together, these data tend to suggest that the increased emphasis at MHS in the past few years on expanding the curriculum offerings is highly appropriate (i.e the new courses which emphasize pragmatic activities and are technical-occupation-related).

Reading and Arithmetic:

Many vocations and avocations require advanced knowledge of reading and arithmetic. Others require only minimal basic reading and arithmetic skills. In the United States today, there is a surprising number of illiterate persons; many of these are in the elderly population, but it is not uncommon to find high school students with serious reading problems, as well as very limited math skills. In order to estimate the current reading and arithmetic skills of the MHS high school students, the Wide Range Achievement Test Reading and Arithmetic sub-tests were individually administered. The Wide Range was selected because it is a power test and does not penalize the student on speed. It is, however, intended to cover a broad range (kindergarten and up) and thus is limited in the numbers of items at any given level. Nevertheless, it has a high positive correlation with other standardized achievement tests (which are timed) and thus does provide useful information.

After scoring and obtaining grade equivalents for each student, data were analyzed by classes. Reported below by grades, the findings will be combined to indicate areas of apparent needed services.

Reading: (Word recognition, oral responses, not timed)

For the ninth grade, the range of reading was from 3-7 (third grade, seventh month) through 13-5 (college freshman). There were about 27% of the group reading at or above grade level (set at 8-9 to take into account test variability).

Two ninth graders would be considered to be illiterate on the basis of this test.

For the tenth grade, the range was from 7-5 through 13-5, with 82% reading at or above expected grade level. None were considered to be illiterate.

For the eleventh grade level, the range was from 6-6 through 13-2, with no illiterates. About 56% were at or above expected grade level.

For the twelfth grade, the range was 4-2 through 13-8, with one student scoring at the illiteracy level. One half the group scored at or above expected grade level.

It becomes obvious quickly that there is great overlap in the reading levels of the different grades, which is typical for high schools, at least as measured by this test, throughout the country. It is also obvious that a fairly substantial proportion (about 51%) of these students did not score at the level expected for their current grade placement; since almost all are older than expected for grade because they have missed school time in the past, it appears that the reading levels may be somewhat below the expected and that some of the materials in the high school texts may be quite difficult for some students.

There were three students whose reading scores suggested functional illiteracy and another eight who did not score as high as the beginning seventh grade level. If these findings are supported by more intensive studies, then there appears to be a need for a formal reading instruction program in addition to the regular curriculum; a remedial reading instructor with training for high school level work may be indicated.

Arithmetic:

The arithmetic test of the Wide Range Achievement Test is self-administered except for the very lowest levels, which none of these students needed. It is not timed. It is essentially a test of arithmetic computation rather than reasoning.

For the individual grades on the arithmetic test, the picture was very similar to that for reading. The results are presented for the total group of high school students.

The range of scores was from 2-7 (second grade, seventh month) through 13-8 (college freshman). The wide range for a high school group is not unusual, but it does suggest that some students are in need of remedial math. A very small proportion of students scored at or above the level expected for grade placement. Actually, the mean arithmetic grade score for the group was seventh grade, ninth month and only about 77% of the group were sufficiently skilled (as measured by this test) to be considered capable of independent living skills in arithmetic. It is estimated that in order to cope with everyday U.S. life in a "normal" manner, one needs to be able to handle at least the beginning sixth grade level. This would mean the ability to add, subtract, multiply and divide 3-digit numbers, figure percentages and proportions, handle fractions (including simple operations on them) and understand ordinary measurements.

With the emphasis on the "new math" in the U.S., there has been a decrease in the kinds of problems presented in this test. Thus, students across the country are getting lower scores on standardized tests than their older siblings got some years past. The findings of lower than expected math scores at MHS are not unique, but reflect the national picture. Nevertheless, students do need to be able to handle the kinds of problems presented on this test and whether they were taught by "new" or "old" techniques, the skills are needed for coping with the community life. Therefore, it seems likely that some remedial math programs might be worth considering. Use of the inexpensive calculators now available might be worth considering also.

To summarize, the picture is one of wide variation, with students having widely divergent skills being in the same "grade level." This means careful scheduling and a lot of individualization in instruction. Some individualization can be facilitated by use of pre-programmed materials, but the teacher still has to determine what is needed and how it is to be taught. For a small proportion of these students, the problems are sufficiently severe to suggest that a special remedial instructor for reading and for math may be needed. In addition, a program of "reading improvement" and one of "arithmetic review and improvement" might be considered for a fairly large number of the students. It seems particularly important to help these students gain the maximal amount from their school program because of the great difficulty in finding jobs and because to master these skills can bring personal satisfaction to the students.

Personality Traits:

THE JR.-SR. HIGH SCHOOL PERSONALITY QUESTIONNAIRE (HSPQ)

As a part of the evaluation of the high school students, use was made of a self-administered paper-and-pencil measure of certain traits related to vocational success. The Jr.-Sr. High School Personality Questionnaire (HSPQ) was selected for this purpose for the following reasons:

1. It is intended for the general population rather than for a psychiatric population, and thus provides comparisons with other high school populations;
2. It is an empirically derived instrument based on extensive factor analysis and normative data;
3. It has been extensively used and studied, with research studies available for improving interpretation;
4. It provides maximal information within minimal time, thus giving maximum information in the shortest time about a relatively large number of personality dimensions.
5. It includes the major dimensions of personality which have been demonstrated by other studies, thus providing objectively determined source traits which appear to be potentially useful for educational counseling and clinical evaluation.

The HSPQ is designed to measure a set of 14 factorially independent dimensions of personality, which Cattell (1969) refers to as "source traits." These he identifies by letters and by specific terms, some of them coined for the purpose; he provides additional terms which are somewhat less precise, but are more meaningful to the average reader. The initials and the lay term for each trait will be used in this report to facilitate quick understanding, but it should be remembered that these descriptive terms are used as technical terms and are subject to misunderstanding if interpreted with complete literalness. Thus, the common popular terms used should be considered as synonyms, but not exact ones, for the more technical terms used by Cattell.

Scores on the HSPQ are reported as "sten" scores, meaning that they range from 1 through 10, with a mean of 5.5. Ordinarily, one would expect about 10 to 15% of the general population to obtain scores of 1, 2 or 3. Another 10 to 15% would be expected to score 8, 9 or 10. The remaining 70 to 80% would obtain scores of 4, 5, 6 or 7. Results of the group of students taking the HSPQ (N was 36) are shown by percentages of students who scored at the low (1, 2 or 3), the middle (4, 5, 6 or 7) and the high (8, 9 or 10) levels. Note well that a high score is not necessarily "good" and a low score is not necessarily "bad," and vice versa. Neither is it necessarily "good" to score at the middle of the range. These sten scores simply tell how a student stands as compared with others his age on personality dimensions which are found in the general normal population. Proportions are shown in Table 8.

In the table, short terms are used to indicate what each factor seems to measure. Below are presented some expansion of the meaning of each term.

Factor A. Reserved vs. Warmhearted: Factor A at either pole is entirely normal. Low A is associated with persons who are described as having a rather dry, flat manner, whereas the high A individual is likely to be warm-hearted, sociable and perhaps sentimental. The most consistent features of the high A persons are a permeation of thinking by affect (feeling), a warm, easy-going relaxation, accessible emotions, and high interest in people. The high A persons express marked preference for occupations dealing with people, enjoy social recognition, are more tolerant of "difficult" people, and are generally more willing to "go along" with expediency, whereas the low A person is more uncompromising and earnest, prefers things or words to people, likes working alone, favors a thinking quality in companionship, and tends to be introspective.

Factor B. Lower Crystallized Intelligence vs. Higher Crystallized Intelligence: Persons with higher B tend to be more persistent, show greater school interest, and seem to have higher morale than lower B individuals. This factor is a rough screening measure of general mental capacity and scores on the test correlate in the neighborhood of .70 with traditional measures of intelligence.

Factor C. Emotional Instability vs. Higher Ego Strength: Ego strength is commonly regarded as an expression of the level of natural dynamic integration, emotional control and stability, Factor C appears to be the core of what is usually seen as a capacity for frustration tolerance. The low C individual tends to be easily annoyed by people and events, is less satisfied with school and family than the high C person, and may have difficulty in keeping quiet and restraining himself, may be discouraged by his difficulty in meeting good standards of behavior.

Factor D. Undemonstrative vs. Excitability: This factor seems to measure the more immediate "temperamental" quality of excitability, a tendency toward mind-wandering distractibility, a quality of insecurity, and an irrepressible, positive, assertive emphasis in its emotionality (e.g., irrepressible impulsiveness). The high D person tends to be a restless sleeper, easily distracted from work by noise or intrinsic difficulties, is hurt and angry if not given important positions. Though likeable and affectionate in quieter moods, the high D scoring person may be regarded as a considerable nuisance in restrictive situations.

Factor E. Submissiveness vs. Dominance: This factor seems to be different in males and females, with females who dominate tending to be associated with socially poised, high attention-getting, perhaps hypochondriacal behaviors. Very high E scores are associated with tendency toward disobedience, headstrong self-will, independence, and creativity of mind. More direct expressions of F may be "sublimated" and controlled and so the degree to which high E is undesirable is related to other personality factors. At the college level, high E is associated with success. Both extremes of the dimension pose problems for adjustment in society, the central positions on the scale being associated with better adjustment.

Factor F. Sober vs. Enthusiastic: The person low on Factor F tends to be silent and introspective, loaded with cares, concerned and reflective, incommunicative, slow and cautious. The higher F individual tends to be talkative, cheerful, happy-go-lucky, frank expressive, reflective of the group, quick and alert. Thus, this factor is similar to the Introversion-Extroversion dimension in other personality measures. While the low F children are not outstandingly popular with their peers and do not usually succeed in elected leadership or personal "contact" work, their seriousness about any job tends to promote occupational steadiness and adjustment to school learning.

Factor G. Low Superego strength vs. Superego strength: This factor appears to be associated with persistence, drive and domination by a sense of duty. The low G individual appears fickle, frivolous, self-indulgent, slack, indolent, undependable and may disregard obligations toward others. The high G person is likely to be persevering, determined, responsible, emotionally disciplined, consistently ordered, conscientious, dominated by a sense of duty, and concerned about moral standards and rules. High G scores correlate with good academic achievement, interest in school and peers, popularity with peers, and election to leadership.

Factor H. Shy vs. Adventurous: Low H scorers tend to be shy and withdrawn, retiring with the opposite sex, emotionally cautious, apt to become embittered, restrained, rule-bound, restricted in interests, careful, considerate, quick to see dangers. High H persons tend to be adventurous and like meeting people, active, overtly interested in the opposite sex, responsive and genial, friendly, impulsive, to have emotional and artistic interests, and to be carefree with low ability to note danger signals. The low H individual dislikes occupations with personal contact, prefers a few close friends to crowds, avoids open competition, is easily resentful, but may be highly sensitive to the feelings of others. The high H persons tend to be free to participate, may become long-winded speakers, and seem less task oriented in group situations.

Factor I. Tough vs. tender minded: The low I person tends to be unsentimental, self-reliant, possibly cynical, unaffected by "fads," and acts on practical and logical evidence, keeping to the point, and does not dwell on physical disabilities. The high I person tends to be more fidgety and expects affection and attention, may cling and seem insecure, seeking sympathy and help, may be artistically fastidious and theatrical, imaginative in inner life and conversation, and may act on sensitive intuition. High I persons are described as fussy, slowing up groups in arriving at decisions, and making somewhat self-indulgent remarks. Low I persons, at the opposite pole, seem more tough, masculine, mature in actions, and "no-nonsense" in temperament. Occupationally, some of the lower I persons tend toward jobs such as managerial positions, physical sciences, electricians, mechanics, accountants, and other jobs requiring the facing of intractable realities. The high I persons are more likely to go into such jobs as artist, psychiatric technician, and home management (women).

Factor J. Zestful vs. Circumspect: Low J persons like to work with groups, like attention, are vigorous in activity, tend to accept commonly accepted standards. High J individuals tend to act more individualistically, are more guarded and concerned with the self, may be fastidiously obstructive, and tend to evaluate coldly. As might be expected, low J persons are more popular with others than high J ones.

Factor O. Self-assured vs. Apprehensive: Low O persons tend to be self-confident and cheerful, placid and impenitent, look for expedient solutions, may be even rudely vigorous, are not likely to show fears, and tend to simple actions. High O persons are more anxious and worrying, may be more depressive and moody, show a strong sense of obligation, and may be lonely and brooding. The high O person is more likely to become overfatigued by the demands of daily living and get downhearted and feel guilty. The higher O persons are less likely to be able to tolerate stress of daily life and work easily than the lower O persons.

Factor Q2. Socially Group Dependent vs. Self-Sufficient: The low Q2 person tends to be a "joiner" and a good follower, whereas the higher one is more self-sufficient and resourceful.

Factor Q3. Uncontrolled vs. Controlled: Low scorers on this factor tend to follow their own urges, be somewhat lax and careless of social rules. High Q3 persons are more exacting of will power, socially precise, compulsive, and tend to follow their own self-image. Self-concept is associated with this factor and it seems related to the concept of "locus of control."

Factor Q4. Relaxed vs. Tense: The low Q4 person tends to be relaxed, tranquil, unfrustrated and composed. The higher Q4 person is more tense, frustrated, driving of himself, tends to become overwrought and fretful under pressure.

In general, these factors should be viewed as independent of each other. Thus, high or low scores on one factor may be likely to result in varied behaviors, depending on the degree to which other factors are present in that individual.

TABLE 8

Sten Scores of Students at MHS on the High School Personality Questionnaire Reported in Percentages Who Scored High, Middle, Low (Note: In the general population, about 10 to 15% would score at each extreme (1, 2 or 3 Low and 8, 9 or 10 high) and about 70 to 80% would score 4, 5, 6 or 7).

	LOW	MIDDLE	HIGH
A.	Reserved, detached, critical, aloof, stiff		Warm-hearted, outgoing, easygoing, participating
	13.9%	83.3%	2.8%
B.	Lower crystallized intelligence		Higher crystallized intelligence
	41.7%	52.7%	5.5%
C.	Affected by feelings, easily upset, emotionally less stable, changeable, of lower ego strength		Emotionally stable, mature, faces reality, calm, of higher ego strength
	8.4%	63.8%	27.8%
D.	Undemonstrative, deliberate, inactive, phlegmatic, stodgy		Excitable, impatient, demanding, overactive, unrestrained
	11.1%	75.0%	13.9%

	LOW	MIDDLE	HIGH
E.	Obedient, mild, easily led, accommodating, submissive		Assertive, competitive, aggressive, stubborn, dominant
	13.9%	63.4%	22.2%
F.	Sober, taciturn, serious		Enthusiastic, heedless, happy-go-lucky
	16.6%	75.0%	8.3%
G.	Disregards rules, expedient, has weaker ego strength		Conscientious, persistent, moralistic, staid, has stronger superego strength
	8.3%	77.7%	13.9%
H.	Shy, timid, threat-sensitive		Adventurous, "thick-skinned," socially bold
	22.2%	69.4%	8.3%
I.	Tough-minded, rejects illusions		Tender-minded, sensitive, clinging, overprotected
	22.2%	69.4%	8.3%
J.	Zestful, likes group action		Circumspect, individualism, reflective, internally restrained
	16.7%	77.8%	5.6%

	LOW	MIDDLE	HIGH
O.	Self-assured, placid, secure, complacent, untroubled		Apprehensive, self-reproaching, insecure, worrying, guilt prone
	16.7%	75.0%	8.3%
Q2.	Socially group-dependent, a "joiner" and sound follower		Self-sufficient, prefers own decisions, resourceful
	8.3%	69.4%	22.2%
Q3.	Uncontrolled, lax, follows own urges, careless of social rules, has low integration		Controlled, socially precise, self disciplined, compulsive, has high self-concept control
	13.9%	66.7%	13.9%
Q4.	Relaxed, tranquil, torpid, unfrustrated, composed		Tense, driven, overwrought, frustrated, fretful
	25.0%	66.7%	8.3%

In addition to the breakdown given in the table, a few more findings are of interest. For example, on Factor D (Undemonstrative vs. Excitable) the group as a whole tended to score on the low side, with almost 31% scoring 1-4 and 61.1 scoring 1-5. On Factor F (Sober vs. Enthusiastic), there were 72.2 in the 1-5 range. On Factor H (Shy vs. Adventurous) there were 66.7 in the 1-5 range. On Factor Q4 (Relaxed vs. Tranquil) there were 63.9 in the 1-5 range and 80.6 in 1-6. On Factor C (Affected by Feelings vs. Emotionally Stable) there were 72% in the range 6-10. In each of the cases, one would expect 50% between 1 and 5 or between 6 and 10, so these suggest trends in the group.

The group of MHS students was not large and so minor differences in "obtained vs. expected" percentages would be expected. In general, the table strongly suggests that this group of high school students is not very different from high school students in other places. Certain trends do appear, however. As a group, these students tend to be slightly more likely to obtain the more extreme scores than would have been expected in a "typical" high school group. As compared with "expected proportions," these students seem a little less easy-going, less changeable, perhaps more assertive, possibly less happy-go-lucky and less likely to disregard rules, more shy and sensitive, and more likely to be rejecting of illusions, somewhat less apprehensive and group dependent, and less tense. On a common sense basis, these differences appear to be understandable.

Individuals in the group differ, as might be expected. However, if one were to try to give a general description of the group qua group, it might be seen as being somewhat shy, sober, somewhat undemonstrative, emotionally stable, and generally quiet. It is obviously not a group of salesmen or radio disc jockeys. One would expect that for most of them, some relatively quiet occupation would be in line with the personality picture.

School Programs Offered

School Programs and Curriculum:

The elementary and junior high school programs are very similar in most ways to traditional public school programs. They have, however, special arrangements and equipment, as described elsewhere. Approaches to teaching basic academic skills are modified when required by the student's disability (e.g. TV teaching).

At the high school level, the list of courses for the 1971-72 school year appeared to be a fairly standard general high school curriculum, with college-bound student provisions. Listed are: Business curriculum, with typing, shorthand, business law, bookkeeping, and accounting, economics, and world geography. The mathematics offerings include general mathematics, algebra and advanced algebra, college mathematics, geometry. Biology, advanced biology, physics and chemistry are available. Languages include four years of French, three of Spanish, two of Latin. History offerings are democracy, civics, U.S. and world history. The home economics department offers foods, clothing, homemaking, as well as "home economics for boys." In addition, there is a four year program in English and a course in creative writing. Music, arts and crafts, choir and private instruction in instrumental music are also on the 1971-72 list. Planned for 1974-75 are a number of additions, many of them in science areas: Genetics, social biology, animal kingdom, nutrition, anatomy and physiology, and a combination physical science and chemistry course. Also planned are expansions in the fine arts, including opportunity for experience in graphics and arts. Distributive education through a store, folk band, musical drama, composers are planned. In addition, family relations courses, expanded home economics, political science, and law are planned. Electronics is available through the Blue Hills Regional Vocational Technical High School, but transportation is something of a problem.

An analysis of the offerings of the 1971-72 curriculum indicates that it is a fairly traditional general high school curriculum with emphasis on preparation for college. In addition, it shows the traditional home economics-business education program, which in most schools has usually been aimed at female students, with some of the traditional fine arts additions, and mechanical drawing (usually for males in most schools).

Study of the proposals for 1974-75 shows a movement toward "modernization" and expansion of the traditional program. The proposed courses in law, graphics, social biology, folk band, and political science are evidences of thoughtful up-dating. Although not shown specifically in the materials available, it seems highly likely that the courses listed in the traditional curriculum have also been modified and updated. For example, the old curriculum shows teaching of Shakespeare at each grade level in the English sequence, but it seems likely that there has been some modification to recognize current trends.

This list of offerings is a large one for the small number of students at the high school level. It would seem likely that some classes are not very large, permitting individualization of instruction. Also, certain courses are offered for one semester only, or for certain days rather than full time.

The program does not show emphasis on careers and vocations, although it is apparent that the business education program is designed for vocational educational purposes and the home economics seems designed to maximize effective community-home living. Even so, the program is largely what was once called "college-bound curriculum." In very recent years, there has been a reconsideration in many school systems of the traditional curriculum. This may reflect in part the recognition that although college is a goal for many, it is not really a necessity for at least 80% of the jobs available. The "college-bound" curriculum and the liberal arts college degree is beginning to be seen as a means toward providing better citizenship skills and a richer life rather than as an occupational necessity for many jobs. There is little criticism of the advantages of a traditional or classical education for enhancing life. There are sharp criticisms of it as necessary for most jobs. One of the keenest criticisms is found in Hoyt, Evans, Mackin & Mangum (1972):

> "At the heart of the problem is the false societal attitude that worships a college degree as the best and surest route to occupational success. This attitude is as dangerous as it is false. When less than 17 per cent of the population can attain what close to 100 per cent of the population have been led to believe is desirable, it is inevitable that the majority must be satisfied with their lot. A viable

democracy cannot afford to view 83 per cent of its population as "second class" citizens...

"At a deeper level, this attitude has resulted from the erroneous application of a generally sound educational principle; namely, that more education can lead one to be better prepared for work. The principle is sound only if one recognizes that the optimal amount of education required as preparation for work will vary widely from occupation to occupation, and from person to person within an occupation. Furthermore, the worth of an occupation, and hence its workers, is more properly judged by its societal contributions than by the amount of formal education required for **entry** into that occupation...Education has other values and contributions than career preparation and they should not be denied any who want them. But the objectives should be clearly differentiated with no overpromise or false expectations." (p. 28).

SURVEY OF GRADUATES

Rationale:

One of the potentially most helpful and usually most neglected resources for determining the effectiveness of any program is the group of consumers who have previously been in the program. In considering whether a survey of graduates of the MHS program would be helpful for this analysis and evaluation, several factors were taken into consideration:

1. Interviews were conducted in a study done by the Alumni Associations of the Massachusetts Hospital School and the Industrial School for Crippled Children and reported in September 1973. That study included 22 graduates of MHS and was conducted by graduate students using interviews under the supervision of Dr. John Chaves, President of the ICC Alumni Association.

2. The expense of conducting well constructed interviews with past graduates would be extremely high and would require a minimum of six months. Furthermore, graduates approached again within one year of prior interviews might reasonably demur at responding to a similar interview so soon.

3. A relatively large amount of the material collected in the previous survey by the Alumni groups might be expected to change little in the intervening time. For example, one would expect little change in data on numbers and ages of siblings, types of disabilities, medical histories, availability of counseling and guidance while in school.

4. Certain information which might be relevant for consideration of a program emphasizing vocational education was not collected in the previous study.

With these considerations in mind, it was decided to use a brief mail questionnaire to students from the graduating classes of 1968, 1969, 1970, 1971, 1972 and 1973. The items of the questionnaire sent were designed to emphasize education and work histories, knowledge of job hunting, and current status, including social activities. It was anticipated that in this way, the study now underway could be done within the budgetary limits required and with added impact by the addition of the data from the Child Advocacy Project Study (CAPS). It is recognized that the groups from whom data may not be strictly comparable; the precise manner of selection of interviewees was not described in the CAPS report, nor were the years of graduation of interviewees given. However, the total number of former students on the CAPS list was 58 and so one assumes that the pool may have been similar recent classes. Discussion of results from the CAPS study will be included. along with information from the mail survey used in this study.

Procedure:

An official list of all living graduates of the classes from 1968 through 1973 was obtained from the MHS administrative staff. This list included names, last known addresses, and year of graduation. A questionnaire (see attached) was designed to provide maximal information with minimal writing; many of the graduates were known to have difficulty in writing and it was deemed wise to make the task as easy as possible mechanically. The questionnaire was divided into the following parts:

1. Employment History
2. Vocational Training
3. Interest in school subjects as recalled by graduate
4. Methods used in finding jobs

5.-6. Information about driving and owning cars

7. Family or single living arrangements
8. Frequency of social activities
9. Typing ability
10. Opinions about kinds of governmental help

Open comments

The questionnaire was mailed to the graduates attached to a letter (see attached copy) from the new Superintendant of MHS. Each letter was individually typed in order to indicate personalized interest. The letter stated simply that the opinions of former students would provide valuable input in helping plan for improvements in programming at MHS. An addressed, stamped envelope was included in each letter. All envelopes were stamped "Confidential." Four weeks after the initial mailing, second letters with surveys attached were sent to graduates who had not responded to the first letter. These letters had an additional note requesting the former student to send in the survey form if it had not already been done, again pointing out that the information might be helpful to other students; effort was made to locate students whose mail was returned by the post office because it could not be delivered with the address used.

Return Rate:

A total of 69 graduates were mailed letters. Of these, seven were returned by the post office and new addresses could not be determined. Thus, the actual pool of potential respondents was 62. Of these, there were 33 returns, a return rate of 53%. While this rate is consistent with reports of return rates for questionnaires as reported in the literature, it is not as high as rates for individuals who are deeply concerned with the topic of the survey. (For example, a survey of psychologists asking about appropriate salary increments for colleagues employed in government agencies yielded a 100% rate and when parents are queried about services needed for their handicapped children, it is not unusual to get 70-75% return rate.) Thus, one might conclude that these graduates were moderately interested, but not deeply concerned with the topic of program improvement. Another possibility, of course, could be that the difficulty some of them had with writing may have slightly lowered the return rate. However, the comments from MHS graduates which were quoted in the Child Advocacy Project study suggests that old graduates' attitudes may be somewhat negative towards the school because graduates of MHS in earlier years, under what they reported as a restrictive regime, made a number of negative remarks about the school and the preparation they had received there.

Whatever the reason for the lower than expected return rate, it is believed that sufficient data were obtained to make comments about their statements. These comments should be interpreted in the light of the degree of representativeness of the sample of respondents and recognition should be given to the fact that this sample probably represents those students who feel that they have information which may be helpful and who also feel concern about helping the program.

Comparison of the groups who did and did not respond suggests that the non-respondents do differ somewhat from the respondents. Data available from files on each graduate was compiled and the respondents were compared with non-respondents on degree of ambulation. Results were as follows:

	Respondents		Non-respondents	
	N	%		
Wheelchair locomotion	26	78.8	15	50.
On crutches at MHS	3	9.1	7	23.3
Ambulatory at MHS	4	12.1	8	26.7
	33	100.	30	100.
Dual Handicaps	2	6.7	3	9.1

Thus, the respondents were more likely to be in wheelchairs, the respondents were less likely to be on crutches or ambulatory. These data may be compared with the 22 interviewees of the CAPS study in which 22.7% were in wheelchairs, 50.0% on crutches, and 27.3% were ambulatory. Whatever the reasons for the differential response rate, it appears that the non-respondents probably were more mobile in general.

Respondents:

Of the individuals who responded to the questionnaire, 25 (75.8%) males and 8 (25.2%) were females. This is reasonably close to the male-female distribution of the total group (65% male, 35% female) of graduates for the years surveyed. Thus, one should recognize that a majority of the students to be given education through MHS are males. Despite Women's Liberation, the current trend still is one in which males are expected to work if they are able, and to support their families, whereas females are "allowed" in current society to remain at home with less stigma. Furthermore, certain jobs still are seen as masculine (e.g. engineering) whereas other jobs are seen as primarily feminine (e.g. stenography). The heavy majority of males in the MHS population needs to be given some consideration in any career planning and educational provisions for careers.

Several respondents wrote additional comments on the pages of their returns. These suggest that they did take the questionnaire seriously and made serious efforts to respond; a few made suggestions for additional questions and two criticized certain questions. There was considerable internal evidence for the validity of responses.

Current addresses for almost all students remain "Massachusetts." Only one in Maine and one in Pennsylvania had moved from the state. This small degree of mobility suggests that training for MHS students prepares individuals for work in Massachusetts. Thus, the survey of employment opportunities in Massachusetts appears to be a valid one for the purpose of planning for MHS students. The fact that most of them live near Boston was not surprising in view of the fact that Boston is the hub of population for the state.

Education Since MHS:

The majority of MHS graduates reported additional education or training since graduation. There were 25 (75.8%) who reported having had further vocational training. Of these, 11 reported some technical training, 5 business or commercial education, and 11 some college; two reported two types of post-high school training. At first glance, this picture appears relatively positive, but further study of the data suggests that the picture may not be so good as first glances indicate. Of those who had some college work, many reported occasional courses rather than full enrollment. Of the 33 respondents, only 5 (15%) appear to be actually full-time students who have been working on degree programs and only one of the nine students of the class of 1969 (which would have ordinarily finished college in 1972 if they went straight through) reported graduating. It would appear that a college-bound curriculum may not have been the most effective preparation for those who graduated from MHS in recent years.

One might ask whether these students did not go to college because of money problems or because of physical inconveniences at the college. The data from the CAPS study would suggest that these may not have been major problems because the great majority of students in the CAPS study who reported going to college also reported that financial aid was no problem; most of them were familiar with resources available for funds. Three of the 11 who reported technical training received that training on the job.

Thus, it appears that the respondents as a group are not following a college program, and are not in jobs requiring a college education. One might speculate that the somewhat low incidence of college students is a reflection of discrimination or difficulties in admission. This does not seem to be a reasonable explanation in a geographic area of 83 colleges with 200,000 students, in an era when private colleges (which most of the Boston area colleges are), are faced with decreasing enrollments and are engaged in very active student recruitment campaigns. Another possibility might be that students did not get guidance encouraging college; however, in the CAPS survey, the students reported that they did get guidance and counsel from a counselor from Massachusetts Rehabilitation Commission and there are indications that teachers at MHS have discussed college possibilities with students. There is another possibility that should be considered; about one-third of these respondents did try some college work, but most did not go into full-time programs. Some may have found college inappropriate for the work they wished to do; others may have found college work too difficult. The results of the intelligence tests (academic achievement predictors) in the files strongly suggests that at least for a fairly sizeable number of MHS students, a college curriculum would be too difficult. For others, there are probably motivational factors, physical barriers too great to surmount, or insufficient reason for them. Whatever the cause, there is strong reason to believe that the program at MHS should not be primarily a college-bound curriculum. Instead, it probably should offer a diversity of programs, one being a carefully designed college-bound program for the minority of students who will be entering college.

Work Activities:

Graduates were asked about their work histories since they left MHS. The figures support numerous previous reports indicating that it is difficult for the handicapped to get and keep employment in our society. Only 8 students reported full employment or full-time school since graduation. Eight more reported some kind of school program without employment since graduation. Three reported periods of full-time and other periods of part-time employment. Two were in full-time sheltered workshops. There were four who had no post-high school along with some part-time educational activity. One had no school, but occasional employment. Seven had never held a job. Thus, less than half the group had been in full-time employment or full-time school since graduation; the picture is a bleak one generally.

Of the jobs reported by graduates, several were related to medical or rehabilitative agencies. For example, one graduate reported working full time as a systems coordinator for the Massachusetts Rehabilitation Hospital and part-time in the dispatch department at Massachusetts General Hospital. Another worked with the Jewish Vocational Services, another worked at Carney Hospital. Other jobs reported more than once included dispatcher, clerk, and assembly line work.

On the basis of reports of post-high school school and employment, the group was sub-divided into the following sub-groups:

Full Employment (FE) combined in some cases with part-time school.

Full-time school (FS) of some type since graduation from MHS.

Full-time or part-time (F/P) Employment most of time since graduation.

Occasional Employment (OE) no further schooling of note.

Unemployed (UE) and no additional school work.

Full-time sheltered workshop (SW).

Some school and/or unemployed (SU) most of time.

The numbers and percentages in each group were:

	N	%
FE	8	24.2
FS	8	24.2
F/P	3	9.1
OE	1	3.0
UE	7	21.2
SW	2	6.1
SU	4	12.2

These figures document the relatively poor employment picture. They do not appear to be inconsistent with the CAPS survey results in which 9 (40%) were reported as "employed" but the degree of employment was not noted. They are generally consistent with but perhaps somewhat lower than the reports on employment of the handicapped in general, since that unemployment rate runs about 30%; these lower figures may in part reflect the fact that several students are still in some kind of training program, but it is still apparent that many have never held any job for an appreciable period of time. Since all were mobile at least in a wheelchair, one cannot assign immobility as the cause. However, several have very severe motor and speech handicaps which would limit their job possibilities more than would be the case for some other legally handicapped persons such as the partially sighted or the mildly retarded, who often work in unskilled or semi-skilled jobs without difficulty.

Living:

One-third of the respondents reported that they have a driver's license or permit; one-third have a car. All but 9 live in family situations and one owns a home. All but 10 report that they type. All report some kind of society, club, or social activities, usually fairly often and usually of an informal social type.

Academic Work:

There were differences in opinion, as expected, about interesting subjects at MHS. Drama, music and art were popular, as were math, foreign languages and English. Unpopular were math, English and foreign languages for some students. Rarely mentioned as either popular or unpopular were business and vocational or technical work. These data probably are too gross to provide very meaningful information about subject interest.

Government Aid: The majority of the respondents reported that a wide variety of governmental supports should be available for the handicapped. Occasional independent personalities said "only if really needed."

DESCRIPTION OF A MODEL PROGRAM

Based on an extensive tour of the Human Resources Complex and interviews with their personnel, the project staff concluded that the HRC was an impressive, well-run and highly successful program (all three components). Although the three units are under separate supervision and function independently of one another, there is considerable continuity and consistency of goals and programs. HRC offers programs to all handicapped persons, from the infant handicapped child to the adult handicapped worker.

In recent years, the Center has added many new and innovative programs in all three of its components in accordance with future employment prospects. These programs are designed not only to meet the physical, academic and social needs of its people, but also to prepare handicapped people for the working world.

A current goal of the Human Resources School unit is to develop a comprehensive Career Education Program (K-12) and a curricular study committee is presently studying the project. The present career education program is limited to the upper elementary and middle school grades (5-8) Below is a description of the Human Resources Center at Albertson, Long Island, New York:

The Human Resources Center (HRC) is a private non-profit organization dedicated to the service of handicapped persons and is partially supported by tax-exempt private contributions:

> "The Center is comprised of three coordinated units: Abilities Inc., a nonprofit demonstration industrial and clerical work center for the handicapped; Human Resources School, which offers tuition-free education to 200 severely disabled previously home-bound children from pre-school through high school level; and Human Resources Research and Training Institute, which conducts research and training relating to the disabled, retarded, aged, disadvantaged, and emotionally restored. The Center also houses the Insurance Company of North America's MEND (Medical and Educational Needs of the Disabled) Institute which provides rehabilitation information to business and industry."*

Abilities Inc.

This unit is a demonstration clerical and industrial work center which provides employment opportunities to about 175 disabled and retarded adults, many of whom would be considered unemployable in the ordinary job markets:

> "Abilities Inc. was founded in a vacant Long Island garage in 1952. It was the first unit of the Human Resources Center.
>
> "Today, the original work force of five has grown to almost 200. Most of them would normally be called unemployable. Some of them would be on welfare if it were not for Abilities Inc.
>
> "At Abilities the workers are disabled, retarded, aged and deaf. But they all get to work on their own, do a full day's work and receive a full day's pay."

Human Resources School

The Human Resources School provides tuition-free education to about 200 severely disabled children and is chartered by the Board of Regents of the State of New York. The school has a full academic curriculum for children who were previously home-bound from infancy through high school level.

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*All items quoted in this section are from materials supplied to the staff by the Human Resources Center.

> "One of the many unique features of Human Resources School is its successful synthesis of architectural adaptations to meet the requirements of its wheel chair-bound enrollment and the very normal psychological environment found within its classrooms and hallways.
>
> "The new wing includes a gym with training devices seldom seen in schools. They include games usually found in the nickel arcade - hockey and baseball games manipulated by pressing and pulling levers.
>
> "Upstairs in the new building is housed a remarkable intermediate Discovery Laboratory and Open Classroom for disabled youngsters in grades four through six. Here, amidst a panorama of vivid color designed to provide perceptual stimulation in an atmosphere of self-discovery, children in wheelchairs, on crutches, and in braces, study the arts, humanities and sciences with their teachers and volunteer teacher aides.
>
> "Of the 355 volunteers who staffed the Human Resources Center Auxiliary during the 1972-73 school year, more than two-thirds worked under the supervision of the school's faculty in helping to establish individualized reading, writing, and verbal learning situations.
>
> "The opening of the discovery center has freed other space in the regular school building and has led to the establishment of a program for infants. Mothers with physically handicapped children are encouraged to bring their children twice a week to this room, equipped with carpeting, special toys and closed-circuit television. Here the children are given special games and toys to improve all-important motor coordination. The three other days of the week, teachers visit parents and children in their homes to follow up on the carefully designed classroom activities. The youngest child receiving instruction in this program is only 18 months old."

New Additions to School

1. Library-Media Center

The newly expanded Library-Media Center maintains a diverse collection of about 8,000 books, periodicals, and reading materials.

The Media collection contains sound-film strips, film loops, 8mm films, programmed learning resources, cassettes and records. All are designed to supplement and enhance the school curricula at all grade levels.

The Center is housed in a modern facility designed to meet the needs of the disabled student. Wider aisles, lower shelves and tables, and a low-level card catalog facilitate use by the disabled student.

2. Adapted Driver Training Program

The independence of the handicapped person often is related to his ability to drive. The use of public transportation is difficult for a person in a wheelchair. The school has developed an Adapted Driver Training facility wherehandicapped persons learn proper driving habits, use of hand controls, and safe transfer into and out of a vehicle. "Most training is done in computerized simulators similar to those used to train commercial and military pilots." The school is "working in cooperation with the New York State Department of Motor Vehicles,using the Adapted Driver Training Suite to develop standardization of testing and licensing procedures for the handicapped."

3. The Little Theater

The Human Resources Center recently dedicated a "Little Theater," which offers a sophisticated program of drama, music, and creative arts to severely disabled young persons. "The Little Theater is architecturally and acoustically designed to accommodate the orthopedically handicapped. The faculty and professional staff are currently developing novel curricula for this advanced facility, including a program of wheelchair theater."

The Research and Training Institute

The Research and Training Institute conducts research relating to the physically handicapped, retarded, disadvantaged, aged, and emotionally restored. It also provides a comprehensive evaluation and training program.

> "Today the Institute has become a partnership, between Insurance Company of North America and the Human Resources Center.
>
> "The Institute works closely with both the School and Abilities Inc. It helps in curriculum development and in the implementation of new ideas for the education and growth of disabled children.
>
> "But the Institute doesn't just do research. It makes its findings available to anyone who is interested in what it is doing. In seminars held nationally. By publishing. By maintaining a library which makes materials and reprints available to anyone who needs them."

New Programs

1. Employment for the Disabled Home-bound

The Research and Training Institute also has a program of innovative job development and placement for the disabled home-bound. HRC believes that "given proper counseling and training, these individuals can achieve vocational goals as employees in existing businesses."

2. New Life Institute

> "A unique organization exists on LI that has provided vocational evaluation, training and job placement for retired persons in part-time or temporary positions.

It is called the New Life Institute and is serving the LI community from its headquarters at the Human Resources Center (Albertson).

"While the primary goal of this program is to benefit the elderly by allowing them to remain active and supplement their income...

"The program staff at the New Life Institute can provide information and consultation on the employment and retirement of the middle-aged and older worker. These services can be made available to industry, government, unions and non-profit organizations."

Work Orientation for Handicapped College Students

This project offers the handicapped college student vocational experience related to his post-graduate ambitions. "The actual work experience gives the student an opportunity to realistically appraise his job objective and assess his own ability to function in his chosen career."

HRC and the cooperating employers each pay half of a participating student's wages. Transportation is provided for students in wheelchairs who cannot commute independently.

University Extension Center

The University Extension Center will soon offer year-round training programs for undergraduate and graduate students in rehabilitation, special education, and other related fields. Participants will receive course credit applicable toward bachelor's, master's or doctoral degrees. Fellowships and stipends will be offered to outstanding college or university candidates. The campus "will serve as a place for learning and growth, where the leaders of tomorrow learn to help others help themselves."

Biography of Viscardi - Founder of Human Resource Center

"Henry Viscardi, Jr. Hank Viscardi is founder and president of Human Resources Center, Albertson, Long Island. He is also director of the INA MEND Institute.

"Henry Viscardi, Jr. is a member of the President's Panel on Mental Retardation and the President's Committee on Employment of the Handicapped, and chairman of Governor Rockefeller's Committee on the Handicapped, and a member of the Faculty of Clinical Physical Medicine and Rehabilitation at New York University's School of Medicine, and holder of six honorary degrees including a Doctor of Literature from the Oldest Confucian University in the world in Seoul, Korea, and recipient of numerous awards and honors by organizations, professional societies and foreign nations, and author of six books, and father of four daughters.

"In accepting an honorary degree for his pathfinding work with handicapped children, Dr. Viscardi spoke of his philosophy, 'Life demands love. Loving means to love that which is unlovable, or it is no virtue at all. Faith means believing the unbelievable, and to hope means hoping when things are hopeless.'"

Publications from the Human Resources Center

"*The Abilities Story*, by Henry Viscardi, Jr. 1967. 239 p. photographs. Paul S. Eriksson, Inc., 119 W. 57th St., New York, N.Y. 10019. $5.95.

"Abilities, Inc., a work center with handicapped employees, operates on a competitive basis with private industry; it was founded by the author in 1952, in a vacant garage on borrowed capital. This is an account of the day-to-day economic struggles to keep it a 'going' business. The company's involvement in federal projects to habilitate the mentally retarded and its ability to adapt to technological and business changes are described.

"Other books by Mr. Viscardi, based on his own experiences as a handicapped person and as the head of Abilities Inc., are: *A Man's Stature* (1952. 240 p. John Day Co., 62 W. 45th St., New York, N.Y. 10036. $3.95) tells the story of his life and the history of J.O.B. (Just One Break). *Give Us the Tools* (1959. 266 p. Published by Paul S. Eriksson, Inc., and available from Hill & Wang, Inc., 141 Fifth Ave., New York. N.Y. 10010. $5.95) relates the founding and history of Abilities, Inc. *A Laughter in the Lonely Night* (1961. 338 p. published by Eriksson and available from Hill & Wang. $5.00) is the story of 15 men and women, all handicapped employees of Abilities Inc. Letter to Jimmy (1962. 165 p. Paul S. Eriksson, Inc. $3.50) gives advice to young handicapped people on problems of adjustment and how to make the most of their lives. The School (1964. 237 p. Paul S. Eriksson, Inc. $5.00) describes the Human Resources School for severely disabled children, built on the grounds of Abilities Inc."

FUNDING AND SERVICES

Information on potential sources of funding for career education programs for physically handicapped students is presented below in tabular form (see Table 9) for easy reference. Information was gathered through personal contacts with local agencies and from the literature review. The survey revealed no specific pieces of legislation directly funded for "career education" other than those funds allocated from the Vocational Act of 1963, as amended (1968, 1972). Recent issues of *Career Education News* (Vol. III, Numbers 12 & 13, June 30 and July, 1974 respectively) indicate that special funds for career education may be forthcoming from Congress. The reader is also referred to the reprint in Appendix A by Gardner (1973) p. 76 and to the statement of the Chamber of Commerce of the U.S.A. (Sydnor, 1974), which recommends funding.

Even though the "Federal Government may be the major source of financial support and technical assistance to the Nation's schools..." (*American Education*, 1974, p. 27), there are private foundation sources of support which may be explored. Also, support frequently is available from organizations in the community and from local businesses (Barnes, 1969; Burt, 1969, 1971; Gardner, 1973, p. 75).

Major governmental agencies which may be contacted for specific information on funding and/or supportive sources:

FEDERAL AGENCIES

I **Department of Health, Education & Welfare**
at JFK Federal Building, Boston, Mass.

A. **Office of Education** tel: 223-7205
Grants and contracts tel: 223-7206

B. **Social and Rehabilitation services** tel: 223-6875 (info)
Rehabilitation services tel: 223-6820

C. **Or write to:**

1. Vocational and Rehabilitation Administration
U.S. Dept. of Health, Education & Welfare
Washington, D.C. 20201

and

2. Associate Commission for Career Education
Office of Education
U.S. Dept. of Health, Education & Welfare
Washington, D.C. 20201

II. **U.S. Department of Labor**
JFK Federal Building, Boston, Mass.

A. **Apprenticeship & Training** tel. 223-6740

B. **Manpower Administration**

1. Employment Service (see Mass. Employment Security Division)

2. Job Corps Office tel. 223-4684

C. **Or write to:**

1. Bureau of Apprenticeship & Training
U.S. Dept. of Labor
Washington, D.C.

and

2. U.S. Employment service, Bureau of
Employment Security
Manpower Administration
U.S. Dept. of Labor
Washington, D.C. 20210

and

3. Job Corps
U.S. Dept. of Labor
Washington, D.C. 20506

STATE AGENCIES

I. Department of Education
182 Tremont Street, Boston, Mass.

A. Division of Occupational Education
Handicapped Programs tel. 727-8143

B. Special Education Division tel. 727-5770

II. Employment Security Division

A. Task Force Clearing House
(for handicapped) tel. 727-6451, 4211

B. Special Services for Handicapped tel. 727-6580

III. Mass. Rehabilitation Commission
296 Boylston Street
Boston, Mass.

A. Training Director tel. 727-2179

B. Research Division tel. 727-2182

TABLE 9

POTENTIAL SOURCES OF FUNDING (FEDERAL)[1]

TYPE OF ASSISTANCE	AUTHORIZING LEGISLATION	PURPOSE	APPROPRIATION FY74 ($ IN THOUSANDS)	WHO MAY APPLY	WHERE TO APPLY
Innovative & exemplary programs supplementary centers	Elementary & Secondary Education Act, Title III	To support innovative & exemplary projects	146,168	Local education agencies	State education agencies, or OE Div. of Suppl. Centers & Services
Programs for disadvantaged children	Elementary & Secondary Education Act, Title I (amended by PL 89-750)	To meet educational needs of deprived children	1,446,338	Local school districts	State education agencies.
School library resources & instructional materials	Elementary & Secondary Education Act, Title II	To help provide school library resources, textbooks, & other instructional materials	90,250	Local education agencies	OE Division of Library Programs

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[1] For a complete listing of Federal funds for education, see "Federal Funds" in American Education, 1974, p. 27.

TABLE 9 (continued)

TYPE OF ASSISTANCE	AUTHORIZING LEGISLATION	PURPOSE	APPROPRIATION FY74 ($ IN THOUSANDS)	WHO MAY APPLY	WHERE TO APPLY
Library Services	Library Services & Construction Act, Title I	To extend & improve public & institutional library services & library services to the physically handicapped	49,019	State library administration agencies	OE Div. of Library Services
Training of Personnel	Rehabilitation Act of 1973 (PL 93-112), Sec. 203	Projects for training, traineeships and related activities e.g. in-service training of professionals	UK	Public & private non-profit agencies & organizations	Regional Rehabilitation Services Program (HEW) & local Rehabil. Commission Training Office
Early education for handicapped children	Education of the Handicapped Act Title VI-C (PL 91-230)	To develop model preschool & early education programs for handicapped children	12,000	Public agencies & private non-profit agencies	OE Bureau of Programs for Handicapped Div. of Educational Services

TABLE 9 (continued)

TYPE OF ASSISTANCE	AUTHORIZING LEGISLATION	PURPOSE	APPROPRIATION FY74 ($ IN THOUSANDS)	WHO MAY APPLY	WHERE TO APPLY
Programs for the handicapped in State supported schools	Elementary & Secondary Education Act, Title I (PL 89-313, as amended)	To strengthen programs for children in state supported schools	85,778	Eligible state agencies	OE Bureau of Programs for Handicapped Div. of Ed. Services
Occupational training & retraining	Manpower Development & Training Act of 1962, as amended	To train persons for work in fields where personnel shortages exist	145,000	Local school authorities (Public, private, nonprofit)	State vocational education agency (information from OE Div. of Manpower Development & Training
Vocational programs	Vocational Education Act of 1963, (as amended)	To maintain, extend & improve vocational education programs; to develop programs in new occupations	494,227 [2]	Public schools	State boards of vocational education (information from OE Div. of Vocational & Technical Education

[2] Note at least 10% of above must be spent on programs for the handicapped.

TABLE 9 (continued)

TYPE OF ASSISTANCE	AUTHORIZING LEGISLATION	PURPOSE	APPROPRIATION FY74 ($ IN THOUSANDS)	WHO MAY APPLY	WHERE TO APPLY
Handicapped research & related activities	Education of the Handicapped Act Title VI-E (PL 91-230)	To promote new knowledge of teaching techniques applicable to the education of the handicapped	9,566	State or local education agencies & private ed. organizations or research groups	OE's Bureau of Programs for the Handicapped Div. of Innovap tion & Development
Vocational education research (developing new careers & occupations	Vocational Education Act of 1963, as amended, Part C	To develop new vocational education careers & to disseminate information about them	9,000	Education agencies, private institutes & organizations	OE Application Control Center, Office of Adult Vocational, Technical & Manpower Education

TABLE 11

ANNOTATED BIBLIOGRAPHY*

PART A. CLASSROOM MATERIALS

I. Materials Designed for Physically Handicapped

Duchan & Schultheis, Filing Personal Names, Filing Business Names and Special Filing Problems.

High interest, low vocabulary workbooks which let students progress at a "success" rate. Good illustrations of basic procedures, followed by exercises and variations. Instruction ranges from very simple to the more complex. Reviews are provided at the end of each section. (South-Western Pub. Co.)

Richardson, N., Type With One Hand.

Workbook presents planned materials and information for the one-handed person with a keyboard approach that will be quickly functional in teaching those skills necessary for speed and accuracy. (South-Western Pub. Co.)

Richter, D.J., Occupational Essentials.

Large student skills and attitudes for employment work-text book. Designed for any type of disadvantaged person. Well-written, easy to follow, has good thought questions for students, realistic assessment. (Johnson Press, Inc.)

Ristau, R., Exploring Clerical Careers.

This work-text book investigates five career exploration paths in the clerical area accompanied by basic skills and abilities, mini-case studies and future employment outlooks. High interest. (South-Western Pub. Co.)

Splaver, S., Your Handicap - Don't Let It Handicap You, 1967.

Written for physically handicapped adolescent. This book "describes the challenges to be overcome and the many resources available to the disabled." (Julian Messner, Inc.)

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*Annotations in quotation marks are quoted directly from the publisher's brochures.

Walter - Film - 15 min.

"This is the story of a black boy who has been paralyzed in the legs since 3 years old. He lives alone, but has dinner at night in the warmth of his adoptive parents' home. He goes to community college where he is studying architecture and is also the lead player of his wheelchair basketball team." For junior and senior high. (Churchill Films).

Wood, M., Number Filing on the Job.

Work-text book which includes easy to complex filing skills. Each job is accompanied by a job sheet record and students evaluate their own improvement.

II. Career Education and Job Information Guides, Programs, Kits and Audio-Visual Aids

American Occupation Series

Series of "99 cassettes describing the training, obstacles and rewards of almost any vocation available." 15 min. lessons, 2 lessons per tape. $436.59 (Thompson-Mitchell & Associates)

Career and Vocational Education Series

"Consists of 8mm sound films (color, sound filmstrips and 8mm silent film loops dealing with career guidance, vocational education and industrial arts." (Doubleday Multimedia)

Career Clusters and World of Work

Sound filmstrip, 30 min. with cassette. Gives an overview of more than 200 occupations in 15 career clusters. Done in cartoon format. (Educational Properties, Inc.)

Career Development for Primary Grades

This program "helps child relate his school work to adult world of work. Its purpose is to create in the primary age child an awareness of work as his ultimate goal." 4 filmstrips with sound tracks on cassette and teacher's guide with spirit duplicator master's. $69.00. (EMC Corporation)

Career Development Laboratory

"A self-contained program which utilizes career survey forms, 60 taped interviews with successful working people, 100 surveys, one guide and one poster." $248.00 (Educational Progress Corp.)

Careerdex

Consists of 1,000 reference cards mounted on a desk top card file. Each card gives title, what job is like, skills, training, pay and prospects for employment. Can update yearly. $99.50. (Career Associates)

Career Directions 9-12

"Prepares students to enter labor market with suitable backgrounds, realistic expectations and definite goals. Includes records, cassettes, filmstrips and books. $268.00. (Changing Times Education Service)

Ca[illegible] Education, A Man's Work

Consists of "100 job interviews which follow U.S. Dept. of Labor guidelines. 2 interviews per tape, 1 each side." $397.50. (Thompson-Mitchell & Associates)

Career Education Program, Vols. I, II and III

This program consists of "a sequence of lesson plans with masters and transparencies which explore areas of work related to student interest." Materials packaged in 3-ring binders. Vol. I - K-6 $15.00, Vol II - 7-9 $15.00, and Vol. III - 10-12 $15.00. (Houghton-Mifflin Co.)

Career Education Programs

This is composed of 7 programs geared toward career education. Each one can be used with an existing curriculum or become the curriculum, beginning with elementary to high school. 7 programs offered are: A Highway to Work and Play, The World of Construction, The World of Manufacturing, Home Economics Career Program, The World of Communications, The World of Work Program and Power Mechanics Program. (McKnight Pub. Co.)

Career Education Series

Consists of 2 workbooks, one on Appliances and one on Automotive. These are high interest, low vocabulary. They provide the reader with basic vocabulary through picture-word association and explanatory sentences. (Allied Education Council)

Career Exploration Awareness

General career information for grades K-12, includes films, filmstrips, cassettes and overheads concerning community and community workers.(Instruction Media Co. IMCO)

Career Exploration and Planning 8-12

Designed to "help students understand themselves and the world of work through career exploration." Text $4.80, workbook $1.35, manual $1.50. (Houghton-Mifflin Co.)

Career Exploratory Program K-12

"Comprehensive career preparation which includes multimedia awareness, planning and exploration K-12."(Science Research Associates.

Career Games (8-12)

"Self-contained instructional unit which contains career cards which suggest where to get more information on each career choice." 398 cards, 1 score pad, 1 filmstrip, 1 cassette, 1 guide. $88.00. (Educational Progress Corp.)

Career Kits

A "series of 8 career reference file kits that describe over 1,000 careers in the professions, science and engineering, health, industry and semi-skilled and unskilled trades." Career kits are cross-referenced and based on DOT classification. (Houghton-Mifflin Co.)

Career Kits 7-12

These kits are concerned with career area and skills. "It is a comprehensive (2,285 items) program containing posters, desk top packs and is based on current D.O.T. Classification. Ordered by months. Reading level is according to grade." (Poster Career, Inc.)

Career World

Magazine for teachers, students and work coordinators. Published yearly Sept.-May. Well-written, up-to-date guide for junior and senior high school students. Each month there contains a systematic examination of one career cluster. Good material - high interest. $2.95 per student, minimum order if 15, guide free. (Curriculum Innovations, Inc.)

Careers Unlimited

36 tapes which include on-the-job interviews with leaders in various fields. $162.80. (Thompson-Mitchell & Associates)

Come To Work With Us (K-6)

12 hardcover books plus a teacher's manual. "Each book has color photographs of youngsters enacting specific jobs within authentic work settings, making it easier for children to identify with the world of work." $42.00. (Houghton-Mifflin Co.)

Compulearn System (K-12)

A 3-part multi-media career education program. The 3 parts are: K-6 Awareness & Exploration - over 250 careers explored; 7-9 Evaluation of Interests, Abilities & Values - 116 career data sheets, 500 related careers, student does interest and ability and job value assessment;
10-12 Decision Making - explores future after high school. Evaluation of career data - recent facts about 200 careers. $450.00. (Random House)

Creating Your Future

Educational software which includes 30 lessons and guides to narration module system. Concerned with "attitude formation, interest, motivation, goal-setting and leadership skills." Reading level 6 and under. Geared to nonacademically oriented youths and adults. (Education Achievement Corp.)

Cumulative Career Index 1973-74

Primarily a shelf reference for teachers, counselors and students who wish to secure free and inexpensive materials of interest. Includes 700 sources of publications and audio-visual materials listed alphabetically and cross-referenced by occupational, professional or educational subjects. Annual compilation with quarterly supplements $7.50. (Chronicle Guidance Publications, Inc.)

Denves, Celia, Career Perspective: Your Choice of Work

"A guide to the process of self-analysis and evaluation. Concerned with students and the choices they make." $3.95. (Charles A. Jones Pub. Co.)

Drier, Harry, Career Development Resources: A Guide to A-V and Printed Materials K-12

Contains over 2,000 up-to-date films, filmstrips, records, tapes, kits, games, books and other materials which are described by grade level and career education concepts. $11.95. (Charles A. Jones Pub. Co.)

Elementary Guidance Series (1-6)

Series includes posters, and career job guides for elementary students, which is concerned with attitudes and job (career) awareness. (Poster Career, Inc.)

Ellenberg, N., Career Education Starter Kit

A student-centered workbook, where the student looks introspectively at his personality and job interests through questions and charts appraising his assets and liabilities. Easily read. (Educational Properties, Inc.)

Encyclopedia of Careers and Vocational Guidance - (Vol. I Planning Your Career & Vol. II Careers & Occupations)

Over 1,500 pp., 600 illustrations. "Books offer latest facts about 100's of occupations, covering 10 occupational categories in 71 major career fields." $26.95. (J. G. Ferguson Pub. Co.)

Finding Your Job

Consists of 6 units, each containing 60 briefs with 12 bound into each of 5 volumes. 360 job titles describing different jobs. Materials easily read. $24.50 per unit, workbook, 72 pp. $1.50. (Finney Company)

Getting a Job

9 lesson cassette tapes which "teach skills for getting a job." $131.00. (Thompson-Mitchell & Associates)

Help Yourself To A Job

Part I covers steps leading to a job. Part II covers different kinds of skilled, semi-skilled and unskilled jobs, Part III covers employer-employee relations. Perforated workbooks. $1.50 each.(Finney Company)

Hoffman Career Information

Contains 200 different occupations in 200 individual modules with 2 min. sound filmstrips for each career profile. "Good for guidance and quick brief information on certain occupations." (Instruction Media Co.)

Holloway, R.L., and Stowe, E., Hello World!

A career exploration program which utilizes key occupational clusters as a basis for exploring careers of today and the future. There are a series of 9 books written in a flowing style and easy to read. Explanation and dialogue are part of each series. 159 careers are explored in depth with questions at the end which encourage students to investigate their community resources. Grades 6-10. (Field Educational Publications, Inc.)

Job Box, The

A vocational resource module designed for special needs students at the high school level. Grouped into 7 job clusters, each of the 70 booklets in the module describes a different occupation and is illustrated with photographs. Realistic information is given concerning jobs which students can handle and be successful in. (Fearon Publishers)

Job Scene

A series of 22 booklets for career development. Grades 1-12. Done in comic book style; colorful cartoon drawings, easily read. Booklets can be ordered separately. $99.00. (IPD Publishing Co.)

Motivation for Career Success

An educational software system which "presents concepts critical to self-discovery and motivates the student to explore the best ways to capitalize his strengths and abilities." 30 lessons, includes cassettes, narration guides. Module system for grades 7-12. (Education Achievement Corp.)

Need A Lift? (1973)

This booklet contains numerous addresses of places to write on certain career areas where student can obtain sources of career information. (American Legion Educ. & Scholarship Program)

On The Job

14 lesson cassettes which deal with "interpersonal skills for job success." $229.00. (Thompson-Mitchell Associates)

Real People At Work (K-6)

"Introduces children to concept of work by describing real people at work in a variety of occupations." Includes posters, records, books and activity sheets. $1,100.00. (Changing Times Education Service)

Valuing Approach to Career Education

3 multi-media programs: K-2, 3-5 and 6-8 which "stresses mastery of career education concepts and specific thinking

skills through valuing. Program contains: Sound filmstrips, cassettes, books, games, reading sheets and teachers' guides." (Education Achievement Corp.)

World of Work, The

A pre-vocational program which can be used for individual or group instruction. 3 series consisting of:
1. Getting a Job - 12 cassettes, 24 student record booklets, guide and storage box. $131.00.
2. On The Job - 20 cassettes, 24 student record booklets, guide and storage box. $229.00.
3. Cross Vocational Skills and Information - 15 cassettes, 24 student record booklets, guide, 12 overheads and storage bos. $175.00.

PART B. PROFESSIONAL REFERENCES FOR TEACHERS, COUNSELORS AND ADMINISTRATORS

Angel, J.L., Employment Opportunities for the Handicapped, 1969, 411 pp.

Book includes the following topics: Counseling the handicapped, Training and retraining the handicapped, Opportunities according to aptitudes and abilities, and a complete bibliography. $12.50. (World Trade Academy Press)

Arthur, J.K., Employment for the Handicapped: A Guide For The Disabled, Their Families and Their Counselors, 1967.

"This book is developed around the process of vocational rehabilitation from onset of disability to job placement. This book is thorough and simply done. Each chapter includes names and addresses of places which can be used to obtain job information." $5.95. (Abingdon Press)

Bailey, Larry J. and Stadt, Ronald W., Career Education: New Approaches to Human Development, 1973.

This book includes the following topics: Career development, foundations and evolution of career education, and models for career education and curriculum development.

Bailey, Larry J., Wood, T.B., and Fischman, S. (eds.) Facilitating Career Development: An Annotated Bibliography, Part II, 1974.

This book documents the fact that there is a substantial body of data available concerning the implementation of career development programs. It is intended for use by educators as a resource guide. Good reference book. (Southern Illinois University)

Career Development Education K-Post Secondary and Adult Level

Paper which presents definitions, purposes and advantages of career education in public education. Discusses goals of career education at various school levels and the main components of a program.(Georgia State Dept. of Education)

Career Education: A Handbook for Implementation, February, 1972.

This handbook covers 4 main areas: Key concepts of career education, needs of career education, career programs in practice, and implementation of career programs for a school system. $.55. (Superintendent of Documents)

Career Education and the Elementary School Teacher

"This book gives foundation for teachers who want to help students become aware of the world of work. It is concerned with work values, the wide range of career opportunities, and the flexibility of multiple careers during a lifetime. Hard Cover $6.95, Soft Cover $4.95. (Olympus Pub. Co.)

Career Education Digest

Published 12 times a year. Contains articles concerning career education, K-12 in school and community programs. $10.00 per year. (Educational Properties, Inc.)

Drier, Harry, Jr. K-12 Guide for Integrating Career Development Into Local Curriculum.

"Developed in Wisconsin Dept. of Public Instruction, this guide shows how a model for career development can be integrated into existing curriculum at all grade levels." $9.25. (Charles A. Jones Pub. Co.)

Employment of the Physically Handicapped

"Case studies of current kinds and places of employment for physically handicapped are given, and suggestions for broader opportunities for employment." Kit $25.00. (Baker and Taylor Co.)

Evans, R.N., Hoyt, K.B. and Mangum, G.L., Career Education In The Middle/Junior High School

"This book examines ways in which teachers may help students explore possible career roles. Discusses programs throughout the country and how they are implemented." $7.95 Hard cover, $5.95 Soft cover. (Olympus Pub. Co.)

Gottfredson, G.D. and Holland, J.L., Vocational Choices of Men and Women: A Comparison of Predictors From the SDS.

Report No. 175, May 1974. Report done through research grant from Center for Social Organization of Schools. Concerns occupations, career choice and career education. (Johns Hopkins University)

Gysbers, N.C., Drier, H.N. Jr., and Moore, E.J. (eds) Career Guidance: Practice & Perspectives

"Book contains selected articles, papers and materials which show changing attitudes toward career guidance and the changing role of the guidance counselor in integrating career education concepts into the school program." $10.60. (Charles A. Jones Pub. Co.)

Herr, Edwin, *Review and Synthesis of Foundations for Career Education*, March 1972, Info. Series No. 61 VT 014805

This booklet contains information on the implications of the 1963 Vocational Education Act and 1968 Amendments. Specific curriculum projects resulting from such legislation is discussed and related to programs and decision perspectives.

Holland, J.L. and Gottfredson, G.D., *Applying a Typology To Vocational Aspirations*, Report No. 176, June 1974.

Report done through research grant from Center for Social Organization of Schools. Concerns occupations, career choice and career education. (Johns Hopkins University)

Holland, J.L., Gottfredson, G.D. and Nafziger, D.H., *A Diagnostic Scheme for Specifying Vocational Assistance,* Report No. 164, December, 1973.

Report done through research grant from Center for Social Organization of Schools. Concerns occupations, career choice and career education. (Johns Hopkins University)

Holland, J.L., Nafziger, D.H. and Gottfredson, G.D., *Final Report of the Careers and Curricula Program*, Report No. 166, December, 1973.

Report done through research grant from Center for Social Organization of Schools. Concerns occupations, career choice and career education. (Johns Hopkins University)

Hoyt, K.B., Evans, R.N., Mackin, E.F. and Mangum, G.L. *Career Education: What it Is and How To Do It*

This book deals with the basic concepts of career education and provides philosophic and historic background for understanding what career education is, why it is needed, and how it developed. $6.95 Hard cover, $4.95 Soft cover. (Olympus Pub. Co.)

McClure, Larry & Buau, Carolyn (eds.), *Essays on Career Education*

A collection of essays by authors of varied disciplines and experience with career education and its many facets. (Northwest Regional Educational Lab.)

Neuschutz, L.M., *Vocational Rehabilitation for the Physically Handicapped*, 1959.

"Rehabilitation problems from standpoint of the employment of physically handicapped and older workers are discussed. Good for use in public education and as a reference for the vocational counselor." $5.75. (Charles C. Thomas)

Orange County Career Curriculum Guides

Several curriculum guides concerning career information were designed for integration into the on-going curriculum at the elementary and secondary levels. The secondary units are specifically designed to correlate job clusters with academics and to prepare students for specific job skills. The units are concise with classroom exercises, specific lesson plans and coordinating bibliography in each guide. (Orange County Career Development Program)

Outreach Apprenticeship Kits

Series of handbooks for teachers, counselors and administrators which contain information on available apprenticeship programs, training stations, current legislation, employment outlook, and where and how to apply. (U.S. Dept. of Labor)

Physical Handicaps and Learning

A kit which contains "suggestions for vocational teachers on how to learn more about physically handicapped students so they can provide proper education and training for employment." $25.00 (Baker & Taylor Company)

Physical Rehabilitation - Film - 28 min. Color & B/W, 1954.

The purpose of this film is to "show methods used in physical rehabilitation work. Shows and describes techniques of physical and occupational therapy. Also shows methods of obtaining ambulation in severely disabled paraplegics. Good orientation for lay people, warmly done." (Film Originals)

Physically Handicapped Workers in Business & Distributive Occupations

Series of case studies. $25.00 (Baker & Taylor Company)

Physically Handicapped Workers in Service Occupations

Series of case studies. $25.00 (Baker & Taylor Company)

Physically Handicapped Workers in Trade, Technical and Industrial Occupations

Series of case studies. $25.00 (Baker & Taylor Company)

Rehabilitation Center - Film - 14 min. Color & B/W, 1960.

This film "brings to view a rehabilitation center with all its services and separate parts. Positive treatment and care of the physically disabled is shown in various departments of the rehabilitation center." (Film Originals)

Rehabilitation International USA

An independent national voluntary agency which provides international services to the U.S. rehabilitation community. Agency offers: New medical techniques, vocational training techniques, rehabilitation treatment systems, architectural barriers, transportation, assistance for U.S. international corporation in training and hiring of handicapped. (Rehabilitation International USA)

Ressler, Ralph, Career Education: The New Frontier

This book discusses career development programs and the beneficial effects such programs will have on teaching and learning. It describes implementation of career education concepts into an existing curriculum. (Charles A. Jones Pub. Co.)

Sharpe, Debera, Teacher's Guide to Career Education

This booklet contains questions and answers on why career education should be part of educational process and how it operates at various levels. (Georgia State Dept. of Ed.)

Smoker, David, Career Education, Current Trends in School Policies and Programs

Career education is viewed through its definition, pros and cons, and current programs in each state. Small, comprehensive booklet which offers valuable information on state progress in the area of career development. $6.75. (National School Public Relations Association)

Stevenson, John G., An Introduction to Career Education

This book is designed to aid school programs with integration of career education into school curriculum K-12. Solutions are presented. $10.60. (Charles A. Jones Pub. Co.)

Superintendent's Guide to Career Development

This booklet offers an overview of career education, definitions, purposes, advantages, overall operation at all levels and appendix of people in state department and programs in Georgia. (Georgia State Dept. of Education)

Waldhorn, H.K., Rehabilitation of the Physically Handicapped Adolescent

This book is for "people who counsel the physically handicapped adolescent and guide him toward rehabilitation. In addition, there is information on: Epilepsy, hemophilia, sickle cell anemia, diabetes mellitus, allergies and brain injury." (John Day Co.)

Wernick, Walter, Teaching for Career Development in Elementary School - A Life Centered Approach

For use with elementary grades, this book explains how career education can be taught and developed in elementary schools. Ideas for classroom implementation are given. $10.60. (Charles A. Jones Pub. Co.)

PART C. LIST OF PUBLISHERS AND ADDRESSES

Abingdon Press
201 8th Ave. S.
Nashville, Tenn. 37202

Allied Education Council
Box 78
Galien, Michigan 49113

American Legion Education &
Scholarship Program
Americanism & Children & Youth Div.
Indianapolis, Ind. 46206

Baker & Taylor Company, The
Box 230
Momence, Ill. 60954

Career Associates
P.O. Box 2316
Newport Beach, Calif. 92663

Changing Times Education Service
1729 H. Street N.W.
Washington, D.C. 20006

Charles A. Jones Publishing Company
4 Village Green, S.E., Dept. 16
Worthington, Ohio 43085

Charles C. Thomas Publishing Company
301-327 E. Lawrence Avenue
Springfield, Ill. 62703

Chronicle Guidance Publications, Inc.
Moravia, N.Y. 13118

Churchill Films
662 N. Robertson Blvd.
Los Angeles, Calif. 90060

Curriculum Innovations, Inc.
501 Lake Forest Ave.
Highwood, Ill. 60040

Doubleday Multimedia
Box 11607
1371 Reynolds Ave.
Santa Ana, Calif. 92705

Educational Achievement Corp.
P.O. Box 7310
101 Lake Air, E.
Waco, Texas 76710

Educational Progress Corp.
8538 E. 41st St.
Tulsa, Okla. 74145

Educational Properties, Inc.
P.O. Box DX
Irvine, Calif. 92664

Educational Resources, Inc.
P.O. Box 353
Old Chelsea Station
New York, N.Y. 10011

EMC Corp.
180 E. 6th St.
St. Paul, Minn. 55101

ERIC Clearinghouse on Vocational & Technical Education
Center for Vocational & Technical Education
Ohio State University
1900 Kenny Rd.
Columbus, Ohio 43210

Fearon Publishers
6 Davis Dr.
Belmont, Calif. 94002

Field Educational Publications, Inc.
3430 Sunset Ave.
Wanamassa (Ocean), N.J. 07712

Film Originals
6536 Robertson Dr.
Boise, Idaho 83705

Finney Company
3350 Gorham Ave.
Minneapolis, Minn. 55426

Georgia State Dept. of Education
302 State Office Bldg.
Atlanta, Ga. 30334

Houghton-Mifflin Co.
2 Park Street
Boston, Mass. 02107

Instruction Media Co. (IMCO)
P.O. Box 185
Green Lake, Wis. 54941

IPD Publishing Co.
461 Park Ave. S.
New York, N.Y. 10016

J. G. Ferguson Publishing Co.
6 N. Michigan Ave.
Chicago, Ill. 60602

John Day Company
257 Park Ave. S.
New York, N.Y. 10010

Johns Hopkins University
Center for Social Organization of Schools
Baltimore, Md.

Johnson Press, Inc.
P.O. Box 4156
1800 Broadway
Rockford, Ill. 61108

Julian Messner, Inc.
1 West 39th St.
New York, N.Y. 10018

McKnight Publishing Co.
Box 854, Dept. EB
Bloomington, Ill. 61701

National School Public Relations Association
18[illegible] N. Moore St.
Arlington, Va. 22209

Northwest Educational Laboratory
Portland, Oregon

Olympus Publishing Co.
937 E. 9th So.
Salt Lake City, Utah 84105

Orange County Career Development Program
410 Woods Ave.
Orlando, Fla. 32805

Poster Career, Inc.
P.O. Box 135
Largo, Fla. 33540

Random House
201 E. 50th St.
New York, N.Y. 10022

Rehabilitation International USA
17 East 45th St.
New York, N.Y. 10017

Science Research Associates
259 E. Erie Ave.
Chicago, Ill. 60611

Southern Illinois University
College of Education
Dept. of Occupational Education
Carbondale, Ill.

South-Western Publishing Co.
5101 Madison Rd.
Cincinnati, Ohio 45227

Superintendent of Documents
U.S. Government P.O.
Washington, D.C. 20402

Thompson-Mitchell & Associates
N.E. Roberts Building
2996 Grandview Ave.
Atlanta, Ga. 30305

U.S. Dept. of Labor
Bureau of Apprenticeship & Training
Washington, D.C.

World Trade Academy Press
50 E. 42nd St.
New York, N.Y. 10017

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Werncick, W., Teaching for career development in the elementary school. Worthington, Ohio: C.A. Jones Publishing, 1973.

PAGES 167-170 OF THIS DOCUMENT HAVE BEEN REMOVED BECAUSE THEY CONTAINED COPYRIGHTED MATERIAL.

Appendix A:
GARDNER, David C., "Career Education In Our Town?"
College Student Journal, v7 n3, 1973.

APPENDIX B

GARDNER & WARREN RESEARCH
Psychoeducational Consultants

Sue Allen Warren, Ph.D., Diploma
American Board of Professional Psychology
Paula L. Gardner, Ed.M.
David C. Gardner, Ed.D.

16 Church Street
Wakefield, Mass. 01880
(617) 246-1477

May 14, 1974

MEMORANDUM

TO:

FROM: S. A. Warren and D. C. Gardner

SUBJECT: CAREER TRAINING

The Massachusetts Hospital School for the Physically Handicapped in Canton, Massachusetts has asked us to assist them in their planning for the development of career education programs for their students. We need assistance from community leaders and agencies to provide necessary data for making appropriate decisions. Your cooperation in completing and returning the enclosed survey form is an essential element in our decision-making process. For your convenience, we have enclosed a self-addressed, stamped return envelope.

If you have any suggestions or comments, please feel free to write them on the back of this survey form, or call Dr. David C. Gardner at (617) 246-1477.

Many thanks for your help!

APPENDIX B (Cont.)

CONFIDENTIAL - FOR RESEARCH PURPOSES ONLY

1. Total number of employees ____________ SIC Code ______________

2. Total number of physically handicapped persons employed by your organization (e.g. persons in wheel chairs, on crutches, unable to use arm(s), etc.) _______________

3. List the type(s) of jobs in which your physically handicapped employee(s) is (are) working:

   1. ____
   2. ____
   3. ____
   4. ____
   5. ____
   6. ____

   If you require more space, please use the back of this form.

4. If you do not currently employ physically handicapped persons, what is your policy? (Circle number beside answers that apply.)

   1. We would employ qualified handicapped workers, if they applied.
   2. There are certain architcctural prohibitions (e.g. no wheel chair ramps, elevators, etc.) Please specify:

      ____

   3. Most of the jobs are too dangerous for physically handicapped workers. Please give example(s) ________________

      ____

   4. Would depend on the degree and type of physical handicap.
   5. Other (explain) ____

Position or Title of Person Completing this Form:

____

____

Please return to:
Gardner & Warren Research
16 Church Street
Wakefield, Mass. 01880

APPENDIX C

CONFIDENTIAL

Name______________________________

Address____________________________

____

Mass. Hospital School,

Class of 19___

Telephone___ ___ ___

DIRECTIONS: Please complete all questions that apply.

****

EMPLOYMENT HISTORY

1. How many months were you employed full or part-time during the period indicated below? (Example: 1974, 3 months, clerk, XYZ Company, N. Adams, Mass., part-time). If you were in school or unemployed during these periods, please indicate in last column.

YEAR	NO. OF MOS. EMPLOYED	POSITION, PLACE OF EMPLOYMENT	PART OR FULL TIME	UNEMPLOYED OR IN SCHOOL
1974				
1973				
1972				
1971				
1970				

VOCATIONAL TRAINING

2. Below is a list of types of training. Circle the letter in front of all that you have had or are now taking AND on the line behind the types of training you have had, fill in the number of the place (from the list on the right) WHERE you got the training.

EXAMPLE: A person who took bookkeeping through a correspondence course would circle the "b" in front of "Business or Commercial" and fill in a "3" on the line following "Business or Commercial."

Types of Training

a. Technical____
(e.g. mechanical, electrical computer, plumbing, etc.)

b. Business or Commercial _____
(e.g. bookkeeping, typing, secretarial, etc.)

c. Academic ______
(College or University Course work)

Where You Took the Training

1. Vocational School
2. Apprenticeship or On-The-Job
3. Correspondence Course
4. Junior Collete
5. Four Year College
6. Other (explain)_______

____

3. Which one of the following types of school subjects did you find most interesting and which one least interesting? Circle the answer which indicates subject you found most interesting and cross out the subject type which you found least interesting. For example: if you found math most interesting and English least interesting, then you would circle "Math" and cross out "English."

1. Math (arithmetic, etc.)
2. Physical Sciences (chemistry, biology, physics, etc.)
3. Social Sciences (history, geography, social problems, etc.)
4. English (including literature)
5. Foreign languages
6. Art, music, drama
7. Business, commercial, secretarial
8. Vocational, technical or industrial
9. Other (explain)______________________________

OTHER INFORMATION

4. How do you usually go about finding a job? (Circle those which apply.)

   a. Look at want ads in the newspapers
   b. Ask friends
   c. Ask employers
   d. Through the Massachusetts Employment Service
   e. Other (explain)______________________________

   What kind of work would you like to have?____________________

   ____

5. Do you have a driver's license (or permit)? _____Yes _____No

6. Do you presently own a car? __Yes __No __No, but have use of one for employment purposes

7. You are:
   ___A roomer __A renter __A homeowner __Living with family

8. Which of the following activities do you take part in with other people? (Circle all items that apply)

   1. Sports (e.g. golf)
   2. Outdoor activities (e.g. fishing, swimming, etc.)
   3. Indoor activities (e.g. table tennis, cards, etc.)
   4. Organized social activities (e.g. social clubs, service clubs, card clubs, church-sponsored social activities).
   5. Belong to a club or organization composed of people where I work or in my profession.
   6. Belong to a union, attend union meetings.
   7. Socialize after work with fellow workers.
   8. Other social activities (describe)____________________

   What is the total number of hours you spend each week on the activities you circled on the list above?__________

9. Do you type? __Yes __No

10. What help should the government provide persons who are in any way disabled or handicapped? (Circle those that apply).

    a. Financial assistance (money to support self and family)
    b. Medical services (diagnosis, treatment, surgery, etc.)
    c. Psychiatric, psychological treatment (help for emotional problems)
    d. Vocational counseling (to inform and help in choice of career & job.)
    e. Devices (such as hearing aid, artificial limb, etc.)
    f. On-the-job training (apprenticeships)
    g. Help with finding a job
    h. Help with family problems
    i. Other (explain)________________________
    j. None

11. Did you receive help in filling out this survey? __Yes __No
    If yes, give name and relationship of person assisting you with this form: ______________________________________

ADDITIONAL COMMENTS

APPENDIX D

GARDNER & WARREN RESEARCH
Psychoeducational Consultants

Sue Allen Warren, Ph.D., Diploma
American Board of Professional Psychology
Paula L. Gardner, Ed.M.
David C. Gardner, Ed.D.

16 Church Stree
Wakefield, Mass. 0188
(617) 246-147

MEMO

To:

From:

In recent years, job opportunities for the physically handicapped have shown increases. However, many physically handicapped high school students are not aware of the possibilities open to them. We are attempting to bring together a list of jobs, coded to the Dictionary of Occupational Titles, which can be made available to some of these students.

In order to compile such a list, we are soliciting information from a number of experienced persons in social and governmental agencies. Your agency has been chosen as one from which relevant information can be obtained. We would greatly appreciate your help on this project.

On the reverse side of this page there are listed the names of the 15 occupational clusters developed by the U.S. Department of Education. Under each is space for listing names of occupations at which you have found physically handicapped persons to be most successful. Would you kindly look through the list of clusters and write underneath each the titles (or descriptions) of jobs which you found to be most likely to provide success for physically handicapped adults.

At the bottom of the list, space has been left for any additional comments you believe will be helpful.

Job Survey Instructions

Below the name of the types of occupations, please name one or more jobs at which you have found physically handicapped persons to be most successful. Beside each job you list, please add the code letter which indicates the kind of handicapping condition of successful persons in the job.

Code: WS = In Wheelchair, Self or Motor Propelled
WP = In Wheelchair, Pushed by Someone
AA = Arm Amputee LA = Leg Amputee PC = Poor Coordination

Illustration: TRANSPORTATION

Ticket Agent - WP, LA

APPENDIX E

GARDNER & WARREN RESEARCH
Psychoeducational Consultants

Sue Allen Warren, Ph.D., Diploma
American Board of Professional Psychology
Paula L. Gardner, Ed.M.
David C. Gardner, Ed.D.

16 Church Street
Wakefield, Mass. 01880
(617) 246-1477

Gentlemen:

We are compiling a list of references and materials in career education for use by professional educators in planning, developing and implementing career education programs.

We would appreciate it very much if you would answer the questions below and return this letter in the enclosed self-addressed envelope.

Check (√) the appropriate response:

1. Do you have special career education materials for the physically handicapped? ____Yes ____No
2. Do you have special career education materials for the mentally retarded? ____Yes ____No
3. Are you forwarding to us career education materials under separate cover? ____Yes ____No
4. Have you enclosed career education materials with this letter? ____Yes ____No
5. Name and Title of individual completing this form:

   ______________________ ______________________

   Telephone Number ____________

If you can provide us with a list of district sales representatives, would you please enclose it with this letter, or send under separate cover.

We would appreciate your sending to us any materials, samples, brochures, etc. which would assist us in this task.

Thank you for your cooperation and assistance.

Sincerely yours,

David C. Gardner, Ed.D.
Career Education Consultant